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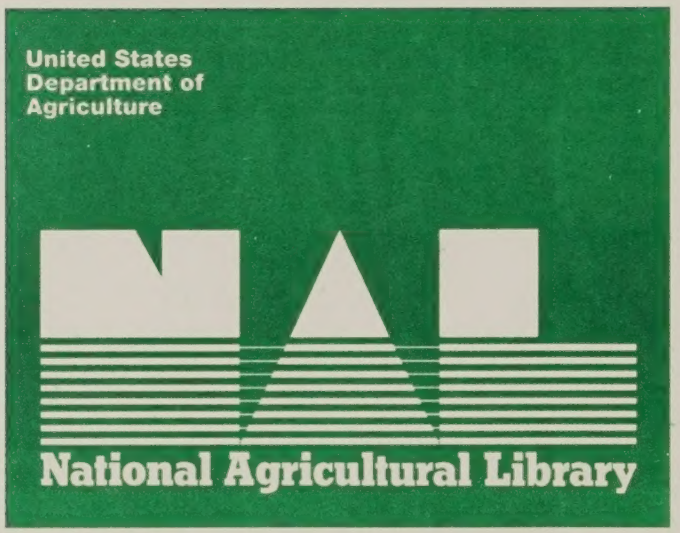
New Perspectives in Forestry: Ecological Framework for Management RD&A Program

FY 1992 Accomplishment Report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ECOLOGICAL FRAMEWORK FOR MANAGEMENT RD&A PROGRAM

FY 1992 ACCOMPLISHMENT REPORT
NEW PERSPECTIVES IN FORESTRY

A PACIFIC NORTHWEST PARTNERSHIP

- USDA Forest Service, PNW Research Station
- USDA Forest Service, PNW Region
- Aerial Forest Management Foundation
- Cascade Center for Ecosystem Management (HJA)
- Consortium for the Social Values of Natural Resources
- Northwest Independent Forest Manufacturers
- Oregon State University, College of Forestry
- University of Washington, College of Forest Resources

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Program Executive Board

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EXECUTIVE SUMMARY

Ecological Framework for Management Research, Development, and Application Program: An Ecosystem Management Research Partnership in the Pacific Northwest

This program has been building on the research partnership started with the New Perspectives program in 1990 to advance ecosystem management research, development, and application. The partnership includes the Pacific Northwest Research Station, the Pacific Northwest Region, Cascade Center for Ecosystem Systems (Oregon State University and PNW), Olympic Natural Resources Center (University of Washington), Consortium for the Social Values of Natural Resources, and Aerial Forest Management Foundation (a private foundation). This partnership has been advancing the Station's program under three Station Goals: (1) advance basic ecological sciences, (2) maintain biological diversity, and (3) provide new management and analytical approaches.

About $4 million was allocated to over 80 projects in this program to the PNW Research Station's units and partners. These projects had input from over 100 people and produced 109 products in the form of publications, manuscripts, graduate theses, working papers, and videos. In addition, the program was involved in over 150 public and professional field tours, seminars, workshops, and lectures.

The program and its partners were involved in the development of the Ecosystem Management Strategy and implementation plan for the Forest Service in the Northwest. The support and research from this program helped with the smooth transition from "New Perspectives" to "Ecosystem Management" as the management framework for the Forest Service.

Some highlights of the FY 1992 program are:

- Testing of alternative silviculture including restoration silviculture in the oldest plantations (40-50 years old) in the Willamette National Forest, to assess economic, ecologic, and social acceptability of various practices. (Cascade Center).

- Establishment of large-scale harvesting study to test leaving green trees, snags, and down woody debris in timber harvest area. (Olympic Center).

- Operation of five learning centers for advancement of ecosystem management principles, research, and communications. (PNW Station and Region).

- Development of a grassroots effort at restoration and management of large watershed with an effective liaison among government agencies, private landowners, and industry in the Applegate Valley in southwestern Oregon. (Aerial Forest Management Foundation).

- An economic analysis of "high-quality forestry," the idea of long-rotation forestry. (PNW Station).

- Finalizing the planning effort for the purchase and siting of a canopy access system for research on the Olympic Peninsula. (Olympic Center).

- Establishment of one major ecosystem management demonstration in each National Forest in Region 6. (PNW Region).

- Technical support to forest managers in preparing aerial logging operations. (Aerial Forest Management Foundation).

- Design and testing of stream habitat restoration projects and development of watershed analysis procedures for design and prioritization of stream and riparian practices. (Cascade Center).

- Social research to provide substantive information to be used in a major Environmental Impact Statement (EIS) on the Gifford Pinchot NF. (Consortium for the Social Values of Natural Resources).

- Major study in wildlife habitat diversity in young growth stands at Fort Lewis, Washington. (PNW Station).

The Ecological Framework for Management program has shown that a partnership can assist society in finding solutions to major land management issues. This is a shared vision of the partnership. The program's budget was expanded by over 40 percent in contributions from its partners in FY 1992. This leverage of Federal dollars has allowed the program to be productive.

For additional information, (including a complete list of products) please contact:

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INTRODUCTION

Natural resource professions are in the midst of a major transition that has been well documented and much discussed over the past several years. It is a transition borne of changing public values and expectations for natural resources, a growing sophistication in our understanding of complex ecosystem processes, and an increasing scarcity of land areas available to provide multiple values and uses. The many new realities that resource managers and scientists now face range from decreasing timber harvests on public and private land to increasing public demands for more participation in decisionmaking processes and global ramifications of resource decisions. People now expect more and better ecological, economic, and social information on how the world works and how they fit into it.

The new realities require natural resource managers and scientists to define new relations not only with the public but also among themselves. Managers and scientists will increasingly be called upon to help society make choices among multiple products and values by focusing effectively on the various tradeoffs. Increased disciplinary and organizational integration is required to tackle the highly contentious and complex ecological and social problems confronting us.

Ecosystem management is one means for meeting the new realities of wildland management. It is part of the next step in the evolution of our thinking and understanding of natural resource research and management. Its major theme is integration. The philosophy embodied in ecosystem management emphasizes a better balance among the uses and values of National Forest lands and the use of ecological principles to sustain these multiple values.

The movement toward ecosystem management is supported nationally and internationally in concept. The Forest Service has moved toward ecosystem management through their "New Perspectives" program, which served them well during transition. Now these concepts and practices are included in the Ecological Framework for Management Research, Development, and Application (RD&A) program. They are supported by several public and private partners.

This report outlines the program and accomplishments for FY 1992. The report has been prepared for both the board of directors of the program and the clients and partners.

MISSION, GOALS, & OBJECTIVES

The Ecological Framework for Management RD&A program in the Pacific Northwest is an integrated part of a larger program of research and development taking place throughout the nation in ecosystem management. Its mission is to develop, demonstrate, and evaluate wildland resource management strategies that provide a diversity of plants and animals, minimize unfavorable effects, and produce the desired variety of products and uses.

The goals and objectives that flow from this mission are as follows:

GOAL 1 **Provide new management and analytical approaches (Station Goal 4156)**

Its mission is to provide new natural resource management strategies and analytical approaches that will produce a variety of products, values, and uses over time.

OBJECTIVES:

A. Develop better methods to collect and manage resource data and assess state-of-the-art knowledge.

An ecological-based management approach about ecosystem requires many different kinds of data to make decisions about land management. Collection, management, and use of this data are major challenges. This objective relates to general methods to efficiently select, collect, and manage such data to serve as a basis for ecosystem management.

B. Evaluate, develop and apply existing and advanced simulators and decision support systems (DSSs) to facilitate comprehensive understanding and decisionmaking for multiresource land management.

This objective deals with the development of a decision support system (DSS) to be used by land managers under an adaptive management framework for ecosystem management.

C. Develop and evaluate new natural resource management options

This objective will concentrate on a few key management option areas. The key efforts will concentrate on (1) alternative forest management silvicultural practices, (2) development and application of landscape ecology methods for land management, and (3) improving socioeconomic information and methods related to ecosystem management questions.

GOAL 2 **Advance basic ecological sciences (Station Goal 4251)**
Its mission is to develop, demonstrate, and apply results of basic ecological research to improve the use, management, and enjoyment of natural resources while maintaining ecosystem health and productivity.

OBJECTIVES:

A. Promote and accelerate understanding and consensus on integrative ecosystem theory.

Understanding ecosystem structure and functioning is a very broad and complex objective, and integrated theory is needed to avoid conflicting predictions of ecosystem response. The RD&A resources directed to this objective will focus on development of theoretical constructs needed to facilitate the sharing of accumulated knowledge about ecosystem structure and functioning among technical experts.

B. Develop methods to determine management impacts on ecosystems.

Being able to observe the state of an ecosystem and ascertain causes of the observed state is a critical precursor to practicing ecosystem management. Under this objective, we therefore will focus on development of methods for defining and assessing ecosystem status and the real or potential consequences of impacts natural or human. Learning what to measure to efficiently determine the state of the ecosystem is a critical problem. We will rely on new integrative theory (objective A) to avoid conflicting measures and to understand the cumulative and additive effects of management and the ecological role of these effects over time.

C. Development of ecosystem management strategies and methods.

When the state of an ecosystem is defined, together with the trend(s), the logical next step (assuming the condition or trend is other than what is desired) is to modify the situation to provide improvement to the ecosystem condition or movement in the desired direction. The definition and restoration questions for "desired condition" need considerable work, both theoretically and in defining the characteristics of the condition sought. The alternative actions needed to achieve such change also will require considerable examination. How changes in one condition will affect others is a major area to be addressed. All of this amounts to a need for a major effort in ecosystem restoration science and technology development.

D. Facilitate acceptance and immediate transfer of new ecological science information to users.

This program will make a special effort to secure user acceptance and access to new ecological science information for two major reasons: (1) the high level of controversy about ecological issues, and (2) the present close interface between the creation of new ecological information and its application. Although technology transfer projects are listed under all other objectives in this goal for the RD&A, this objective is included to put emphasis on the technology transfer effort associated with this RD&A goal.

GOAL 3 **Maintain biological diversity (Station Goal 4252)**

Provide the scientific and conceptual bases for biodiversity issues and apply these concepts in the maintenance or improvement of biodiversity in forest, range, and aquatic ecosystems.

OBJECTIVES: **A. Develop the philosophical basis to specify land management goals to assist in defining new biodiversity policies.**

The hardest part of any planning effort is deciding the goals to be pursued. Determining the goals of managing land for biodiversity is especially difficult because (1) concern for biodiversity as a whole is relatively new, (2) there is no societal consensus on biodiversity goals, (3) biodiversity goals may conflict with other management goals, and (4) the scientific basis of managing for biological diversity is complex and poorly understood. But research on methods for the management of biodiversity can proceed only if goals are specified, however incompletely. Work on this objective therefore seeks to develop the bases for establishing biodiversity management goals.

B. Develop methods to survey and monitor patterns of biodiversity at various scales.

Achieving goals and objectives for biological diversity will require following adaptive management principles. Adaptive management, in turn, is only possible if scientifically credible monitoring systems are in place. Monitoring therefore should play a substantial role within biological diversity programs.

This objective will be developed through three major thrusts: (1) determine useful and scientifically valid indicators of biodiversity, (2) develop methods to integrate data collection storage of inventory information, and (3) develop appropriate monitoring strategies to track indicators.

C. Create an understanding of processes that control and maintain biodiversity.

This RD&A Program's objective will be issue driven and product oriented. It will focus on biodiversity processes as they relate to management activities and associated cause-effect relations and impact-amelioration methods. It will concentrate on bringing current understanding of biodiversity control and maintenance processes into full use and will focus on key R&D projects required to overcome knowledge gaps about processes. Considerable attention will be devoted to processes related to key threatened and endangered plant and animal species (next 3-5 years).

D. Using our understanding of processes together with current patterns, species, processes to project future conditions under alternative management scenarios.

For our acquired knowledge of biodiversity to be useful to managers, we need to develop models for the manager to use to predict the response of the ecosystem under different treatments. The manager can then make more informed decisions.

These models often will require information from retrospective studies to substitute space for time to get the best approximation from the models. The prediction of future conditions under different management strategies is key to wise decisionmaking for biodiversity. We must have an understanding of biodiversity in terms of current and desired structure, composition, and function in order to manage this resource.

E. Development of tools to maintain and restore biodiversity to achieve desired future conditions.

Biodiversity is operationally defined as the amount (extent) and distribution of past, existing, and probable future or desired vegetation and animal gene pools, species, communities, ecosystems, and ecological conditions.

Many of the "tools" required for maintaining and restoring biodiversity to achieve desired future conditions take the form of information needs. Such information needs include ecological descriptions and classification of biodiversity; methods of inventory and tracking trends in amount, distribution, and causes of change of biodiversity; and methods for tracking effects of management activities on biodiversity. Tools also include models for representing, understanding, and predicting biodiversity conditions and effects of forest management activities.

F. Facilitate immediate transfer of new biodiversity sciences and management information to users.

Any issue-driven RD&A program must deal with the rapid transfer of information to users. The customers of the program include a wide range of people from managers to the public. Different methods usually are needed to transfer information to different groups. Each target audience must be analyzed for the objective of information transfer: Why? and How? This program will integrate technology transfer products throughout all objectives, but a special effort will be oriented towards the spotted owl program. This program will be in its later years of development, and many products will be ready to move into application.

PROGRAM ACCOMPLISHMENTS

The Program's accomplishments for FY 1992 were in four major areas:

1. Products associated with the program that were completed by partners.
2. Products associated with the program that were completed by the Station.
3. Organization work associated with managing the program.
4. Demonstration and application products associated with the Pacific Northwest Region.

The Program funded research and development projects through partners at the Olympic Natural Resources Center (ONRC), the Cascade Center for Ecosystem Management-H.J. Andrews (CC/HJA), the Consortium for Social Values of Natural Resources (CSVNR), and the Aerial Forest Management Foundation (AFMF). The program funded additional projects within the PNW Research Station.

Table 1 shows products completed in FY 1992. Products are organized by program goal and partner. Work included research projects, development of tools, workshops, and guidelines for management applications.

In 1992, the Program focused on converting from "New Perspectives" to "Ecosystem Management" and working on the Strategy and Implementation plan for Ecosystem Management within the Station and Region. Our partners have been very supportive of the transition to ecosystem management.

The following is a short summary of program accomplishments by partners.

Aerial Forest Management Foundation

The Aerial Forest Management Foundation was created in response to Congressional interest in the potential for aerial harvesting to protect forest ecosystems and biodiversity while extracting commercial timber. In its first year, the foundation has shown, through public and scientific review of a series of helicopter logging projects on private and public land, that it is possible to protect forest integrity while extracting forest products. Aerial harvesting projects were surveyed to find examples of environmentally sound harvesting. The foundation has been a major partner in the development of an effective working team involving public interests, government, the environmental community, and university research groups contributing to the Ecosystem Management program. This program has contributed significant scientific and technical guidance toward sound, practical aerial forestry applications. Technical support has been provided to many forest management activities through training sessions, meetings, and direct technical assistance in preparing helicopter sales and working on special harvesting and forest health problems. Computer aids for helicopter sale planning have been developed jointly with the USDA Forest Service as a part of this support.

The foundation has produced media material relating aerial techniques to sound environmental forest management. This material has been used to brief government officials and Congressional members and staff. The foundation has arranged site visits on private and public lands.

Management practices, policies, and procedures that promise to resolve differences between forest protection objectives and commercial timber production through the practical use of aerial forestry have evolved from foundation efforts to date. Several case studies also have been completed, including one focusing on the Ashland Watershed. These cases have been included in a video distributed to the public and shown on public and commercial television.

The foundation has been active in successfully establishing an effective liaison between governmental agencies, private landowners, and industry. The Applegate Partnership, whose objective is the restoration and maintenance of the Applegate Watershed utilizing ecosystem management principals, evolved from the foundation's activities. This community-based project has the potential to serve as a model worthy of replication in other localities.

Cascade Center for Ecosystem Management (H.J. Andrews)

The Cascade Center for Ecosystem Management involving the Pacific Northwest Research Station, Willamette National Forest, and Oregon State University, is developing, demonstrating, and implementing new approaches to management of forest and stream systems. A blending of ecosystem research, cutting-edge management concepts, and dialogue with the public is helping to define the future course of ecosystem management for Federal lands.

Major elements of the Cascade Center program include:

1. Development of new approaches to design ecosystem management at the landscape scale to meet ecological objectives while producing some timber outputs. This Augusta Landscape Project is based on understanding the natural variability and disturbance regime of the ecosystem and provision for forest habitat having a desired mix of successional stages.

2. Testing of alternative silviculture, including restoration silviculture in the oldest plantations (40-50 years old) in the Willamette National Forest, to assess economic, ecologic, and social acceptability aspects of various practices, including some intending to create old-growth forest conditions. These studies will help determine practices suitable for use in the future in owl conservation areas.

3. Design and testing of stream habitat restoration projects and development of watershed analysis procedures for design and prioritization of stream and riparian restoration practices.

4. A new area of activity is to produce maps of forest conditions (for example, extent of old-growth and plantations of various stages of development) across ownerships and through time, based on remote sensing data. This information is being used to conduct ecological and policy analysis in several large areas (several million acres each) of mixed ownership in western Oregon.

This information may become pivotal in building alliances among diverse groups of former adversaries seeking some agreement on the future of forestry in their area (for example, the Applegate project and an incipient effort in Lane County).

Funding for New Perspectives or Ecosystem Management allows the Cascade Center to bridge from the several million dollar program of basic research (funded by Forest Service Research, the National Science Foundation, and other sources) to applications on the Willamette National Forest. The Cascade Center makes information developed through research, development projects, monitoring, and public contacts available to others through workshops, publications, numerous field tours, and other channels.

Consortium for the Social Values of Natural Resources

Consortium for the Social Values of Natural Resources researchers have presented formal papers, conducted seminars, and been participants in workshops and meeting discussions both within Forest Service Research and National Forest Systems, and with external groups. The primary purpose of these efforts has been to assure recognition and representation of the social aspects of new perspectives and ecosystem management, and to increase the understanding of social aspects and the importance of including a social perspective in planning and management decisionmaking.

Scientists from several social science disciplines from across the country came together in a workshop format to address the topic of acceptability of new perspectives practices and conditions. Workshop participants have continued to collaborate on a publication now in review. A second document, "Social Acceptability of New Perspectives Practices and Conditions" has been completed. This document provides helpful information drawn from several studies aimed at identifying social acceptability of various management activities. The report supports consideration of the social component of ecosystem management.

Several social scientists have been working on a research project on the Gifford Pinchot National Forest that addresses the relations between social values and new perspectives. The research, conducted in the summer and fall of 1992, will provide substantive information that can be used in an EIS process that is underway. In addition, participating scientists are collaborating on a handbook that compares several quantitative and qualitative research methods used in the study. The handbook will be completed in 1993 and will be useful to those at the District and Forest level who are considering gathering data to help in developing a better understanding of particular social aspects of new perspectives and ecosystem management.

Olympic Natural Resources Center

A major premise of the center's work is that interdisciplinary and interinstitutional work is necessary to solve many current resource management problems. Thus, the center strongly encourages cooperative work, and has projects under development or underway with three Federal agencies,

two state agencies, two universities, two Native American tribal groups, three industrial or environmental organizations, and three National Forests. The State of Washington made a commitment to the Olympic Center's cooperative work by providing an operating appropriation of over $550,000 for the 1991-93 biennium and capital funding over $5.5 million.

Emphasis areas include ecological research at large spatial and temporal scales–particularly landscape ecology, forest canopy research, and alternative harvesting regimes, that are hypothesized to provide more ecological benefits than clearcutting. To support these, the center established a workstation based geographic information system and is establishing canopy research facilities based on a construction crane and towers. The center also is cooperating with the Gifford Pinchot National Forest to establish a large harvesting study. Recognizing that human beings and resource extraction are parts of our regional landscapes, the center also is conducting economic, engineering, and social science research.

Pacific Northwest Region

The Region expanded incentives for employee innovation and creativity by empowering field units to use principles of new perspectives in implementation of forest plans. The acceptance of these ideas achieved wider application than any similar program in the region. These ideas form the basis for our region's "ecosystems approach to management."

The Region and Station jointly implemented a new perspectives demonstration program region-wide. Each National Forest had at least one demonstration area in FY 1992. These demonstrations portray how to implement the Forest Plan using the principles of new perspectives and ecological management. As part of this system, learning centers were developed. Learning centers provide focal points for research and NFS to develop new information about new perspectives ecosystem management and to disseminate what is learned to others.

The Deputy Regional Forester, now the Regional Forester, initiated a multi-agency framework to deal with biodiversity from an ecosystems approach. He and a few of his staff met with scientists and managers from numerous federal and state agencies. That group developed a draft biodiversity "framework." The framework has broad support in Oregon agencies but initially lacked that in the State of Washington. We are moving toward a Memorandum of Understanding with the State of Oregon which we are trying to mature into a further agreement specifically on "an ecological approach to management."

The Region developed many biological diversity ideas for its own use in forest planning and plan implementation. This was done with close coordination of BLM, Fish and Wildlife Service, State Forester, and Nature Conservancy.

The Region and Station jointly developed an ecosystems strategy and work plan.

The Region developed and initiated the use of annual reporting that focuses on creating and maintaining desired future conditions, in addition to outputs.

PROGRAM PARTNERS

In August of 1990, the New Perspectives Research, Development, and Application (RD&A) program was created. This program was designed as a partnership and has grown into a very productive organization. This year, the concept of ecosystem management started being discussed as a central theme in the New Perspectives program. It was a Forest Service decision to convert New Perspectives to the more clear vision of ecosystem management, the name of the partnership was changed. The new name, Ecological Framework for Management encompasses this change as the program aligns with the reorganization within PNW Station. The program maintains the same partnership as it did under New Perspectives.

The program is guided by a board of directors made up of senior executives from each of the four major partners: the Pacific Northwest Region, the Pacific Northwest Research Station, the University of Washington College of Forest Resources, and Oregon State University School of Forestry. The program also has strong ties with the following partners:

Aerial Forest Management Foundation (AFMF)
The Aerial Forest Management Foundation is a nonprofit foundation devoted to developing the potentially beneficial relationships between aerial forest management and concepts relating to protection of forest ecology and biodiversity being introduced through New Perspectives. A primary objective of the foundation is to assist in the resolution of basic issues between industry practice and new approaches to forest management.

Cascade Center for Ecosystem Management (HJA)
The Cascade Center strengthens and formalizes the long-term research and forest management partnership around the H.J. Andrews Experimental Forest and its mission of ecosystem research, demonstration projects, public involvement and monitoring. The Center has close ties with Oregon State University.

Consortium for Social Values in Natural Resources (CSVNR)
The Consortium is an affiliation of scientists and professionals from diverse organizations that are working together to better understand and facilitate the linkage between people and natural resources.

Northwest Independent Forest Manufacturers Association (NIFM)
NIFM is an association of forest product manufacturers with an interest in the management of forest lands so that their renewable resources will provide long-term yields of products and services for the nation.

Olympic Natural Resources Center (ONRC)
The Olympic Natural Resources Center, located at the University of Washington, conducts research and education on natural resource management practices that integrate the generation of economic benefits with the maintenance and enhancement of ecological values.

Table 1. FY 1992 Products

Station	Goals	Source	Number of ms., pubs. theses, working papers	Wkshps, videos lectures/field tours, seminars
4156	Analytical Approaches	ONRC	8	
		HJA	17	79
		AFMF	1	1
		PNW/R6	19	2
		CSVNR		
4251	Advance Basic Ecological Sciences	ONRC	4	
		HJA	11	11
		AFMF		
		PNW/R6	14	12
		CSVNR		
4252	Maintain Biological Diversity	ONRC	2	
		HJA	16	5
		AFMF		
		PNW/R6	7	1
		CSVNR		
4851	Serve People in Forest Lands	ONRC		
		HJA		1
		AFMF		
		PNW/R6		
		CSVNR	4	1
4852	Involve the Public In Policy Management	ONRC	1	45
		HJA		
		AFMF		
		PNW/R6		
		CSVNR	1	
4853	Better Economics to Base Resource Decisions On	ONRC		
		HJA	4	8
		AFMF		
		PNW/R6		
		CSVNR		
Total			109	166

These products are outlined in Appendix III. Copies of products can be obtained from the authors or through the New Perspectives RD&A office in Portland. Products completed with FY 1992 funds in FY 1993 will show as accomplishments in FY 1993. The authors and contributors are listed in Appendix IV.

FINANCIAL SUMMARY

The FY 1992 budget for Ecological Framework for Management (EFM) had three major funding sources. First, the baseline budget for the New Perspectives RD&A Program came from the PNW Research Station budget. Second, two congressional appropriation "add-ons" for the program contributed to both the PNW Research Station allocation as well as the allocations to the Pacific Northwest Region (Region 6). The fourth source was contributions from partners. These include amounts such as the shared contributions shown in the program's contracts with the Olympic Natural Resources Center and Aerial Forest Management Foundation and as well as amounts (for example, Region 6 New Perspectives initiatives at the field level and the efforts of partners such as Northwest Independent Forest Manufacturers Association to support the program financial program.

Table 2. New Perspectives FY 1992 Funding Summary

					Administrative Support		
Program Funding Source	$M Alloc.	% of Budget	Outside Agreements	R6/PNW Units	WO	Program Mgmt	Station Mgmt
PNW Budget	2050	53%	UW 30 AFMF 100	1612	60	156	115
R6 Contribution	135	3%	AFMF 25			110	
Earmark HJA-PNW	450	12%		404	13	8	25
Earmark ONRC-PNW	1250	32%	800	320	37	23	69
Total	3885	100%	955	2336	110	297	209

Appendix I - Background on Partners

Aerial Forest Management Foundation (AFMF)

This foundation is a non profit foundation created in the public interest to develop the potentially beneficial relations between aerial forest management and concepts for the protection of forest ecology and biodiversity being introduced through New Perspectives. A primary foundation program objective is to assist in resolving basic issues between industry practice and new approaches to forest management.

The purpose of the foundation is to promote educational and scientific efforts in solving harvesting problems associated with aerial forestry. They assist in developing practical methods to plan timber sales and improve harvesting technology to efficiently and effectively produce timber supply under sound ecological and aesthetical management concepts.

Contact Jim Neal or Steve Martin at Aerial Forest Management Foundation (AFMF) 22785 Airport Rd., NE, Aurora, OR 97002. Telephone number (503) 678-2665.

The Cascade Center for Ecosystem Management

The Cascade Center for Ecosystem Management, centered at the H.J. Andrews Experimental Forest and Willamette National Forest, has its roots in the 20-year partnership by Oregon State University, the Willamette National Forest, and Pacific Northwest Research Station. This partnership has demonstrated an unusual mix of research, demonstration, development, and application. We have been able to carry information and findings from research rapidly into management demonstrations and application. The Cascade Center is one of the Pacific Northwest's New Perspectives learning centers.

The mission of the Cascade Center is to develop, apply, and communicate new information about the function of forest and stream ecosystems. The intent is to develop and implement state-of-the-art ecosystem management. Within this scope, cooperative actions include (1) conduct of long-term ecosystem research, much of it funded by the National Science Foundation and the Forest Service; (2) develop, field test, and demonstrate management practices that incorporate information about ecosystems and social values; and (3) share and assess this information with land managers, public, policy makers, students at all grade levels, and others through many channels of communication, including field tours, workshops, classrooms lectures, publications, and media approaches.

Center activities range from site-specific prescriptions and studies to landscape and regional analyses. These activities include:

- develop new planning strategies for designing ecosystem management at the landscape scale
- formulate management guides for stream and riparian networks
- conduct and evaluate watershed restoration projects
- examine ecological, timber yield, and economic effects of alternative stand management prescriptions to enhance biological diversity in plantations
- conduct regional assessment of forest conditions through time using remote sensing
- design systems to analyzes cumulative watershed effects
- examine long-term site productivity under different forest management systems.

The center has established close working relations with other institutions to further research (for example, National Science Foundation, U.S. Geological Survey, NASA, U.S. Fish and Wildlife Service) and to develop a forum for dialogue about current forestry issues and practices (for example, American Forests, Western Forestry and Conservation Association, World Watch Institute). Media interest has been active at local and national levels (Chicago Tribune, New York Times, Washington Post). The center is addressing current issues, sharing information with interested persons and groups, and conducting research and demonstration activities that are responsive to current and future issues.

Contacts are Lynn Burditt or John Cissel, Blue River RD (503) 822-3317; Fred Swanson, Forestry Sciences Lab, Corvallis, OR (503) 750-7355; Art McKee, Oregon State University, Corvallis, OR (503) 750-7350.

Consortium for the Social Values of Natural Resources

All natural resources are linked to society by the values society places on those resources. Values may be biological, recreational, economic, aesthetic, or spiritual. These values bring together different interests; for example, environmental groups and the timber industry are bound by the conflicting values surrounding the spotted owl.

The consortium embraces a multiorganizational and interdisciplinary approach where biological and social sciences go hand in hand. It takes on complex problems solvable with many skills and perspectives. The consortium recognizes that no single organization or discipline has adequate resources or abilities to the job; for this reason, the consortium facilitates collaboration among many groups. It reviews and synthesizes existing knowledge; conducts research; develops programs for continuing education, development, and applications; and develops demonstration areas and forums for debate and discussion.

National, regional, and community groups are given opportunities to find common ground in debates and discussions of resource problems in consortium-sponsored forums. Workshops, field trips, and courses are held. Research and technical reports are published, and videos and slide presentations are produced.

Partnership for Solutions

Problems in natural resources are confounded by either absolute lack of information about social values or, more commonly, by information that is subjective, scattered, partial, and diffuse. Information often is held by individuals and organizations with little interchange.

The consortium offers ways to overcome administrative and political boundaries in the search for effective and innovative solutions to natural resource problems. Individuals and organizations are brought together so that many skills, perspectives, and resources are focused on critical resource problems. The consortium will improve the quality of problem solving and reduce the overlap in effort.

Although conceived in the Pacific Northwest, the issues and problems the consortium addresses go beyond the region. The consortium collaborates with individuals and institutions across the United States and in Australia, Canada, and Denmark and searches for similar ties with other interested parties around the world.

Contact Roger Clark, People and Natural Resources (RD&A), Pacific Northwest Research Station, 4043 Roosevelt Way NE, Seattle, WA 98105. Telephone number is (206) 553-7817.

Northwest Independent Forest Manufacturers

This association is a non profit membership corporation organized under the laws of the State of Washington. Its purposes are (1) to promote the management of the forest lands so that the renewable resource will provide long-term yields of products and services for the nation; (2) to assist its members to achieve fair competitive opportunities by (a) promoting primary processing of public timber within the United States, (b) providing assistance to members on public timber sale and public timber supply issues (c) by educating the public to the benefits of the sustained yield management of public commercial forest lands, and (d) by seeking to eliminate unfair trade practices by foreign governments; and (3) to consult with and advise agencies of national, state and local government on the foregoing.

Contact M.J. "Gus" Kuehne, P.O. Box 11346, Suite 400, 7011 So., 19th Street, Tacoma, WA. Telephone number is (206) 564-0452.

Olympic Natural Resources Center (University of Washington)

Mission of the Olympic Natural Resources Center (ONRC) is to conduct research and education developing and implementing natural resource management practices that integrate the generation of economic benefits with the maintenance and enhancement of ecological functions and values.

The ONRC was created by the Washington State Legislature in 1989. The creation was recommended by the Commission on Old Growth Alternatives for Washington Forest Trust Lands, appointed by the Department of Natural Resources (DNR) and composed of major interests involved in conflicts over forest management. Legislative direction defined the mission and directed the center to focus on forest and marine issues. The center works cooperatively with government agencies, industry, environmental organizations, resource dependent communities, tribes, and scientific experts.

Programs components focusing on forest and marine issues are:

Research

- forest ecosystems, particularly landscape level and forest canopy work
- harvesting alternative silviculture and stand structure restoration
- economics, social science, and forest engineering
- defining marine research opportunities

Education and Problem Resolution

- continuing education for resource professionals
- encouraging cooperation among interest groups and landowners
- supporting research by graduate students
- providing access to information to the general public

The research and education programs will be integrated with policy makers and resource professionals advising on the direction of the research program. Some of the 1992 forest research topics were (1) experimental testing of timber harvest prescriptions that retain different amounts of trees to benefit wildlife, (2) developing a forest canopy access system to support a range of studies, (3) modeling stand development under new forestry practices, (4) developing tools for landscape-level resource management, and (5) correlating spotted owl activity to forest structures.

The marine research program is still being developed and may include investigation of links between marine and terrestrial systems.

Facilities

- Legislature directed center to establish research facilities on the western Olympic Peninsula.
- 1991 State budgets provide $5.675 million for construction of facilities near Forks, WA.
- Construction is planned for 1993-94 including about 14,800 square feet of research and administrative offices, laboratories, seminar and conference areas, limited dormitory areas, and 4800 square feet of supporting structures.
- Federal funding has been obtained for a tree canopy access system, NEPA reviews are being conducted in spring and summer of 1993, with erection planned for fall 1993.

Staff, Faculty, and Management

- Established by State law, center is part of the University of Washington.
- Center will have a policy advisory committee appointed by the Governor.
- Forest programs will be administered through the College of Forest Resources, and Marine programs will be administered through the Center for Streamside Studies or the College of Ocean and Fishery Sciences.
- Many center projects will be cooperative with other public and private organizations.
- Center is expected to employ a core of 6 to 12 scientific, administrative, technical, and clerical support staff.
- Several dozen researchers and students are expected to work at the center each year.

Budget

- 1991-93 core operating funding from the State is $560,000.
- Principle of funding is to seeking State funding for core operations, non-State funding for programs.
- Congress appropriated $1.25 million for center research and major equipment for 1992.
- Other sources have indicated firm intent to provide additional funding of $315,000 per year.
- Total program funding is expected to be $2-3 million per year.

Contact Gordon R. Smith, Manager, Olympic Natural Resources Center, University of Washington, AR-10 Seattle, WA 98195. Telephone (206) 685-4802 or Fax (206) 543-3254.

Appendix II - List of FY 1992 Projects

Aerial Forest Management Foundation

AFMF1.1 Develop interactive graphics displaying harvest prescriptions, visual impacts, and other consequences of aerial harvest planning.

AFMF1.2 Assist in developing an engineering analysis of wind forces on living trees.

AFMF1.3 Develop standard definitions etc., for relative forest canopy closure from a forest workers perspectives.

AFMF1.4 Assist in encouraging the development of technologies systems that can accomplish the changing requirements of transporting marketable materials from forest economically.

Cascade Center for Ecosystem Management (H.J. Andrews)

PN13.01 Operations of Cascade Center for Ecosystem Management–implementation of demonstration projects on stand and landscape planning and management. Communication with public, land managers, policy makers, media, etc., facilities or data management to support research.

PN13.02 Assess the current ecological conditions of the Central Cascades area comprised of the Willamette NF and adjacent private lands extending to the Willamette valley. Remote sensing will be used to identify the pattern of forest conditions through time and across ownerships.

PN13.03 Interfacing economics and ecology in stand and landscape modeling including the Augusta Creek ecosystem management study area.

PN13.04 Several projects concerning social acceptability and public participation in stand and landscape management.

PN13.05 Examine prospective future courses of Forest Service planning including the roles of decision support systems (e.g., Forest Plan), scientists, the public, and other elements.

PN13.06 Simulate forest and wildlife habitat responses to alternative stand prescriptions using the gap model ZELIG.

PN13.07 Evaluate the historical and current behavior, structure, and ecology of streams and riparian zones with respect to varying land uses, climate change and disturbances on a population of watersheds in the Pacific Northwest.

PN13.08 Identify the importance and role of remnant trees and deadwood on the productivity and diversity of the forest ecosystem.

PN13.09 Restoration silviculture–effects of alternative stand management systems at the point of commercial thinning in 40 to 50 year old plantations in the central Willamette National Forest. Explore alternatives for biodiversity and directing stands toward old-growth conditions.

PN13.10 Monitoring of cutting units to determine levels of green trees, snags, woody debris, windthrown of residual trees, and other factors to evaluate the effects of alternative management systems and to provide data for modeling economics, ecological effects, and timber yield.

PN13.11 Develop and apply (to two watersheds in the Willamette and Siuslaw NF) a planning system for managing vertebrate diversity across multiple-use landscapes.

PN13.12 Educate public and forest managers on the ecology, economics, and management of forest fungi, especially edible varieties. Develop databases on the biodiversity and community structure of forest fungi. Complete sampling of fungi plots and plan for fall sampling.

PN13.3 Establish an integrated research site of the regional long-term site productivity study in the isolation block on the Blue River District. Examines effect of alternative silviculture in mature (90-year old, post-wildfire) forests, including techniques to foster development of old-growth conditions.

PN13.14 Assess bird community response to a gradient of tree retention levels in harvest units. Will also test two hypothesis on the factors underlying these relationships.

Olympic Natural Resource Center

ONRC1 Model management of a forested watershed, including spatial relations, harvest flow, expenditures, and revenues.

ONRC2 Acquire and install a tower crane for old-growth canopy research.

ONRC3 GIS system and manager to support ONRC research projects.

ONRC4 Quantify landscape pattern of forest structures on a portion of the western Olympic Peninsula, using various indices of pattern, for future assessment of impact of landscape pattern on ecological processes.

ONRC5 Develop new statistical methods for making strong statistical inferences from landscape level research data where treatments are so large that they cannot be replicated in the manner of traditional controlled experiments.

ONRC6 Siouxon biodiversity monitoring. Considering rare species, uncertainty, regional biological diversity, budget constraints, and develop a sound plan with consideration of possible timber harvest.

ONRC7 The Siouxon basin will be examined and a percentage of the landscape selected for reservation from logging to maintain diversity by developing and applying an explicit decision key using GIS technology.

ONRC8 Develop model to address the issue of landscape connectivity relative to the ability of old-growth dependent organisms to move across a landscape fragmented by clearcuts.

ONRC9 Influence of forest edges on the spatial and temporal patterns of air temperature within a square remnant of old-growth Douglas-fir patch. Results for larger projects to predict biotic and abiotic variables across a fragmented forest landscape.

ONRC10 Study log decomposition and invertebrate species diversity of coarse woody debris in old-growth vs. clear-cut sites in wet and dry environments.

ONRC11 Examine recovery rate of tributaries of the Hoh River on the Olympic Peninsula affected by debris torrents by examining the diversity and abundance of invertebrates residing in the particulate beds of the affected streams.

ONRC12 Literature review of canopy insects in the Pacific Northwest and write proposal for future research on arthropod communities in old-growth canopy and arthropod response to new forestry practices.

ONRC12 Provide speakers on aspects of ecological forest management at conferences and workshops and provide written and verbal information to individuals and organizations requesting information on the scientific basis and implementation of New Perspectives.

ONRC14 Edit and publish manuscript and discussion papers produced from Olympic Center research including a contract with Carol Perry for editing and production work.

ONRC15 Provide Forest Service with paperwork required to carry out projects, meet with cooperating partners, coordinate Olympic Center activities with the Forest Service and other partners.

ON/PN01 Examine prospective future courses of Forest Service planning including the roles of modeling, scientists, the public, and other elements.

ON/PN02 Exploratory study to identify values the public holds for the Siouxon: a comparative analysis of various methodologies used to identify values; and a problem analysis detailing future research needs.

ON/PN03 Identify styles of adaptive learning about silviculture practices on the Olympic Peninsula. Develop exploratory methodologies for accessing managers knowledge of silviculture practices.

ON/PN04 Evaluate the effectiveness of public participation activities through case studies and a problem analysis.

ON/PN05 Conduct inventory of all forest work, by job classification and skill knowledge level for private, state, Forest Service, and National Park lands; assess skills and their suitability for "new forestry" applications.

ON/PN06 Examine the microclimatic patterns of solar radiation, air, soil temperatures, wind velocity, and relative humidity in the cutover areas of alternative silviculture (e.g., dispersed vs aggregated) on the western slope of the Cascades.

ON/PN09 Remote sensing of forest structure–will evaluate imagery's spectral and spatial properties, and develop models for extracting a number of forest stand structural attributes.

ON/PN10 Forest growth models will be developed for projecting the structure and dynamics of vegetation in forests dominated by Douglas-fir. Impacts of traditional or non-traditional silviculture on growth, yield, and sub-canopy vegetation will be explored.

ON/PN11 Examine structure of forest stands used by spotted owls which have been substantially disturbed within the last one hundred years. These stands are not typically old-growth, but have some old-growth characteristics.

ON/PN12 Reconstruct stand development of old-growth Douglas-fir and compare stands in Oregon and Washington to determine whether the development of the stands was due to gradual or catastrophic events.

ON/PN15 Plan and coordinate a major interdisciplinary symposium focusing on the state of knowledge relative to New Perspectives concepts and practices.

ON/PN16 Continue to manage existing and new acquired data on vegetation in natural stands and green tree retention cuts.

Projects Funded in FY 1992 by PNW Station

PN01 Synthesis of available information on pruning in the Douglas-fir subregion. Completion of eastside studies on the economic impact of the pine shoot borer. Develop a "New Perspectives" alternative for the 1993 RPA timber assessment.

PN02 Study to describe environmental effects of using chloropicrin to control root rot. Specifically, areas around treated stumps will be compared with areas around untreated stumps.

PN03 Install sites to compare the effects of three successional schemes and three levels of woody debris on long-term site productivity and resource production. Study is designed to get at the fundamental implications of silviculture methods proposed under new forestry.

PN04.01 Long-term study of several silviculture regimes aimed at accelerating development of old-growth characteristics and wildlife (particularly owl) habitat in young-growth stands.

PN04.02 Complete work on stand development patterns at extended rotation ages.

PN05 Research and development of appraisal and management strategies for reintroducing fire into a fire adapted ecosystem altered by past management practice. Will initiate new fuel consumption models to improve fuel loading estimates.

PN06 Continuation of fertilizer study in Blue Mountains of northeastern Oregon. Evaluation of effects on western spruce budworm populations and their defoliation impacts, effects on tree pathogens, tree growth, understory, biodiversity, and forage.

PN07 Inventory of riparian stands to assess the composition of the stands following stream rehabilitation, and provide a long-term prognosis for the stands future ability to contribute to water quality, aquatic, and wildlife habitat in a basin intensively managed for timber production.

PN08 Research on alternative stand-level strategies that provide biological diversity, minimize environmental impacts, and produce desired multi-resource values.

PN09 Test the efficiency of thinning and underplanting in young (about age 30) stands of Douglas-fir in the Oregon coast range to accelerate development of stand structure with old-growth characteristics.

PN11.1 Continue work on determining the values the public has for natural resources. Synthesis of existing knowledge and exploratory studies will be conducted to test ideas and approaches and to identify additional research needs.

PN11.2 Continue work on determining acceptable New Perspectives practices from a social and cultural standpoint. Completion of a synthesis of current knowledge, a forum for discussion, techniques or tools, exploratory studies to test ideas, and identify other research needs.

PN11.3 Initiate work to develop effective mechanisms for public participation. Will analyze current knowledge, prepare problem analysis, and initiate studies to determine what techniques are working and what does not.

PN12 Initiate work to assess how other countries are responding to similar natural resource and forestry problems and issues we face in the United States. Main focus will be Canada and Australia, specifically looking at experiences related to New Perspectives.

PN12.01 Co-sponsor a forum series on decisionmaking in a changing world and the role of science and scientists.

PN14 Quantify the distribution and intrinsic taxis value of terrestrial vertebrates occurring on the National Forests and throughout the Pacific Northwest.

PN15 Study of costs and benefits for timber supply, value, and impacts on other resources of shifting timber management to rotations between 150 and 300 years on westside National Forests in Washington State.

PN16 Finalize current conceptual model on ecosystem sustainability. Form a group to attempt to expand the model to include population biology and biodiversity concerns as much as possible. Form a group for New Perspectives oriented decision support system for NFS.

PN17 Synthesize for field foresters and others the past decade of research on shrub and hardwood ecology management in the Pacific Northwest.

PN18 Product market survey of edible mushrooms. Will collect list of buyers and prepare questionnaire. This project is part of a proposal which will hopefully be supported through a grant with MAB (Man and Biosphere).

Pacific Northwest Region (Learning Centers)

Blue Mountains Learning Center. Establishment of a strong research framework for the five-lock demonstration area.

Cascade Center for Ecosystem Management Learning Center. Research, demonstrations, and public communications are used to develop new systems for management of forests, landscapes, and stream systems.

Columbia Learning Center. Project was initiated in September 1992, and will continue in FY 1993 that incorporates a landscape analysis process into the Northern Region's "Sustaining Ecological Systems" (SES) process.

High Desert Learning Center. To apply state-of-the-art silvicultural techniques which mimic natural processes in stand development and thereby accelerate the incorporation of structural attributes of old-growth forests into regenerating stands.

Olympic Learning Center. The key goals were to develop organization and contacts with potential partners, initiate educational and technology transfer activities, promote New Perspectives demonstration and applications sites, facilitate cooperation and understanding among managers, researchers, citizens, and coordinate information sharing on research efforts on the Olympic Peninsula.

University of Washington

These are projects underway by Dr. Chadwick Oliver at the University of Washington. For further information contact Dr. Oliver at 206-685-0875.

PN/UW01 Comparing no management vs stand management for various structural features for biodiversity through silviculture manipulations of young stands. Two papers have been produced from this report. The first paper is a draft on young stands of eastern Washington and Oregon. Paper has been sent to coauthors for review.

The second (eastside) paper is in rough draft and will be final when comments from coauthors of the first draft is received.

PN/UW02 Consequences of green retention. Three reports are being developed. The first paper covers the growth and change in crown form of Douglas-firs undergoing suppression. It is still a draft report and not ready for publication.

The second paper will cover the response of Douglas-fir to release from varying levels of suppression. Data has been collected and analyzed and a preliminary report written.

The third paper is a more detailed study of the relation of overstory density to growth of understory Douglas-fir. This paper is in its final stages. All data has been collected, compiled, and analysis is about 85 percent complete. A report will be ready by March 31, 1993. Following this, the papers will be written and submitted for publication.

PN/UW03 Thinning on extended rotations. There are two parts to this study: refinement of a suitable model for framework for examining the growth potential; and incorporating the data from the long rotations stands (Port Blakely Tree Farms) into the framework. The model framework is about 85 percent developed; and the data from the Port Blakely study is ready for incorporation. Final incorporation will be done this spring and summer 1993.

PN/UW04 An adaptive management demonstration in silviculture. All necessary data has been collected from three young, mixed Douglas-fir western redcedar plantations. Projections, comparisons, and analyses have been made, and the project is currently being written (with additional analyses being done during the writing). A report should be completed by March 1, after which a paper will be written to submit for publication.

In addition to the above projects, other accomplishments through the New Perspectives program done by Dr. Chadwick Oliver are:

1. Published an article in the Journal of Forestry describing how various New Perspectives projects can be incorporated into a landscape management system. (Report available through the Ecosystem Management RD&A program).

2. Delivered two papers at a symposium entitled "Managing Landscapes for Biodiversity, Forest Health, and Sustained Timber Production", Tacoma, Washington. September 15, 1992. Paper titles: "Integrating Many Values Across a Landscape" and "Concerns of Private Landowners With Landscape Management." These papers will be published as a University of Washington CINTRAFOR Working Paper, and then be rewritten as a journal article.

3. Sponsored one-day workshop of professionals in Oregon, Washington, and Alaska working on technical aspects of landscape (ecosystem management). Workshop held on July 22, 1992, at Pack Forest, Eatonville, Washington.

4. Two presentations at Symposium "Managing Ecosystems for Biodiversity", Wenatchee, Washington, November 17-18, 1992. Presentation titles: "Disturbances, Biodiversity, Forest Health, and Ecosystem Management" and "A Developing System for Ecosystem Management."

5. Presentations to Olympic National Forest, Olympia, Washington. December 9, 1992, and to Idaho Panhandle National Forest, Coeur d'Alene, Idaho, November 19, 1992. Presentation title: "Landscape Ecosystem Management for Forest Health, Biodiversity, and Forest Productivity."

6. Presentation at Symposium "Landscape Approaches to Managing Forest Health." Colville, Washington, June 18-19, 1992. Presentation title: "Working With the Landscape in a Natural Way."

7. Presentation to western Washington County Commissioners: June 18 and October 8, 1992. Presentation titles: "Landscape Management for Biodiversity and Forest Products and Forest Health."

8. Presentation to Wildlife Subcommittee of Washington State Forest Practices Board. July 9, 1992. Presentation title: "Implementation Landscape Management for Biodiversity and Forest Health in Washington."

Appendix III - FY 1992 Products

Aerial Forest Management Foundation (AFMF)

A status report relative to specific tasks is as follows:

1. Visualization Aids: HELIPACE version 2.0 (Draft) has been upgraded to include a visual feedback of tree size and spacing in a plan view to facilitate cutting prescription planning. The display shows standing and felled trees. Additional views of stands from different perspectives.

HELIPACE - Software Modifications Status

The new HELIPACE product depends upon modifications to HELIPACE and the development of a new product, USEFIBER, which provides for stand data entry, visual treatment display and analysis, and analysis of the stand in terms of utilized and unutilized out puts. Because of this, progress is reported for both of these items.

USEFIBER

This program has four major parts.

1. Tabular collection and presentation of stand and treatment related data.
2. Presentation and use of stand graphics to guide and make treatments.
3. Analysis of the specified treatment into utilized and unutilized products.
4. Integration with HELIPACE, and any other program that might use the stand analysis techniques.

Item (1) is completed.

Item (2) is nearing completion. Two aspects of the graphics remain to be finished: drawing logs on the treatment graphic (trees and crowns are now drawn) and improved reporting of remaining canopy closure.

Item (3) is partially completed. An analysis can be done that reports the weight, volume, and sizes of pieces from a treated stand. The method of creating logs, when defect is present, is under revision to more accurately reflect the piece sizes.

Item (4) is in a workable state. The link between HELIPACE and USEFIBER works and HELIPACE is able to utilize the results of a treatment. There remain some user friendliness issues to resolve, so that, for example, the user will not inadvertently delete files which are shared by the programs.

There are five major modification areas.

1. Technology update of the user interface.

2. Provide stand graphics for canopy closure, wood availability, and turn time estimates.

3. Use the stand analysis outputs of USEFIBER to replace stand data and weight estimations.

4. Revise the program help to incorporate stand photos and diagrams that assist the user in making estimates.

5. Provide for the adding of move-in/move-out costs in the summary report.

Item (1) is partially completed for the MS Windows version of the program and the DOS version is farther from completion. The interface aspects of the summary, use of service landings, and special outputs, such as the link files for network, as well as printing, still need to be coded.

Item (2) is completed. HELIPACE is able to use whatever graphics are generated by USEFIBER, and as these improve, so will the ones in HELIPACE.

Item (3) is completed; whatever results that USEFIBER produces, HELIPACE can use. Like the graphics, when the analysis results improve, these will be automatically incorporated into HELIPACE.

Item (4) is partially completed. The stand pictures have been taken and selected as to which examples they will illustrate. The pictures have not been incorporated into the help text.

Item (5) is not completed. Work will begin on this when the summary report is Finished in the user interface (item 1).

2. Canopy Closure: Anticipated study at PSU or other university has not been initiated. Professor Faryar Etami is waiting further instructions and negotiations. However, the graphics described in the above section relative to HELIPACE visuals substantially contribute to canopy evaluations.

3. Wind Firmness: Cooperative study at PSU has been initiated under the direction of Graig Spolek, Ph.D., P.E., Professor and Chair, Mechanical Engineering Dept. Initial effort will focus on aboveground tree strength to breakage under wind loading. Initial effort does not include considerations of root structure, soil conditions, or tipping of trees with roots attached.

New System Analysis: AFMF has assisted in encouraging the development of the Aerial Crane System. AFMF also assisted in evaluating the operating prototype Aerial Crane System.

4. New System Analysis: Analysis of New Systems continued in FY 1992, emphasizing the application of lighter-than-air technology. The Cyclocrane program continues under US Air Force sponsorship with a new double-ended configuration, which significantly improves controllability. A tethered balloon system has been developed through the technology demonstration stage with a system which successfully traverses a large two dimensional forest area with vertical (third dimension) lift capability. The system accurately lifts, moves and places loads over a significantly larger area than conventional cable systems but is expected to be compatible with the skills and business capabilities of cable operators. Assistance in defining future mission of advanced systems, preparation of RFP, evaluation of RFP, and planning future program is yet to be formalized.

5. Communications: The Community Project concept developed during the first half of FY 1992 was well defined by the time that the June memorandum on Ecosystem Management from Dale Robertson was published. That Memorandum contained key elements which are reflected directly in the Community Project concept. The concept was briefed to the Regional Foresters in both Region 5 and 6 in June 1992, and working material was provided for use in planning for future ecosystem management programs. In the fourth quarter of FY 1992 an organizational and operational plan for the Community Project was developed with interested groups in southern Oregon to follow up on the Ashland Watershed Project from the FY 1991 effort. The Ashland Project provided a model for a larger and more extensive project to be based upon the Applegate Watershed, an area covering about 800 square miles.

The Community Project has been used as a means of communicating forest management concepts which support sustained production of goods and services from the national forests. These communications have expanded to public liaison involving residents, landowners, political representatives and industry in the southern Oregon region identified for the Community Project concept. Extensive discussions have been held with management in the lumber manufacturing industry to review forest management concepts and their impact on commercial timber availability.

Papers on forest management and aerial forestry were prepared for later presentation during the last quarter of the year. These papers are to be given at the American Foresters Society, the Timber Framers Guild of North America and the International Mountain Logging and Pacific Northwest Skyline Symposium.

AFMF continued distribution of 30-minute video "Resolving Conflict in the Woods," brochures on need for new forest policy and HELIPACE Software. A consistent positive public response has resulted from these activities.

6. Public Liaison: AFMF has provided timber sale layout assistance, appraisal input and informal training assistance in project implementation upon request from public agencies and private organizations. Field trip and briefings were initiated by AFMF for USFS, BLM, US Fish and Wildlife and industrial organizations as well as the public at large to illustrate the application of environmentally sensitive forest management policies. Work is in progress on a brochure that will be appropriate for general distribution at FS and BLM district offices as well as other public outlets.

REF: Amendment 2

Canopy Closure Evaluation - Cumulative Effects Threshold Study

Two formal presentations have been made on HELIPACE that included information about how canopy closure affects cost and productivity of aerial logging: one at the Software Showcase, the other in Munich. Another paper and a poster presentation on HELIPACE are being prepared for Seattle. Two software upgrades have been prepared and added to HELIPACE on canopy closure: one on the effect of canopy closure on cost estimation and the other on the user help section for canopy closure.

Preparations for the Applegate Watershed community stability project have progressed substantially. Progress on cumulative effects threshold model will be continuing.

Ref: Amendment 3

Portable Platform for HELIPACE (Ver 2.0, draft) is operating on a lap-top computer (Anika's). Market search and procurement of color lap-top is not complete.

Color hardcopy of HELIPACE not completed.

Cascade Center for Ecosystem Management

Presentations:

January 16, 1992. A. Hansen. An introduction to biodiversity. College of Forestry series on biodiversity, Oregon State University, Corvallis, OR.

January 22, 1992. T. Spies. Relationships of fire and biodiversity from a landscape perspective. Symposium on Fire in the Pacific Northwest. Portland, Oregon.

January 23, 1992. G. Grant. XSPRO: An interactive software program for analyzing cross-sections of high-gradient stream channels (poster), Natural Resources Software Convention, Portland, OR

February 12, 1992. G. Grant. Background and approaches to analyzing cumulative watershed effects in the Pacific Northwest, seminar, Washington State University (invited).

February 12, 1992. G. Grant. An overview of geomorphic and hydrologic concepts relevant to fisheries biologists, Annual Meeting, Fisheries and Wildlife Biologists, USDA Forest Service, Regions 1 & 4, Lewiston, ID (invited).

February 13, 1992. G. Grant. Watershed and riparian research conducted under the New Perspectives program in the Pacific Northwest. Joint meeting of British Columbia and United States scientists to discuss New Perspectives research in the United States and British Columbia. Lake Kowichan, B.C.

February 25, 1992. Managing biodiversity across multiple-use landscapes. Annual meeting of the International Association of Landscape Ecologists, Corvallis, OR.

February 25, 1992. D. Wallin. Satellite remote sensing of wildlife habitat dynamics. Invited lecture, University of Washington, Seattle, WA.

February 25, 1992. A. Hansen. Modeling forest dynamics at the stand and landscape levels. Invited lecture, University of Washington, Seattle, WA.

February 25, 1992. Modeling forest and wildlife dynamics across multiple-use landscapes. Annual meeting of the Oregon Chapter of the Wildlife Society, Bend, OR.

March 9, 1992. Modeling forest and wildlife dynamics across multiple-use landscapes. Biology Department, Montana State University, Bozeman, MT.

March 16, 1992. T. Spies. Forest stand structure. Lecture to Managing Forest Structure and Composition. Continuing Education Program, Oregon State University.

March 17, 1992. Modeling forest and wildlife dynamics across multiple-use landscapes. USFS Region 10 Office, Juneau, AK.

April 92. S.L. Garman and J.T. Finn. Landscape disturbance and diversity of small mammal habitat in Acadia National park: a simulation approach. U.S. Landscape Ecology Symposium, Oregon State University.

April 1992. D. Luoma. Presentation on biodiversity of mycorrhizal fungi at a biodiversity workshop in Bend, OR.

April 8, 1992. T. Spies. Coniferous Forests of the Pacific Northwest: a mosaic in transition. Annual meeting of the U.S. Association for Landscape Ecology. Corvallis, OR

April 8, 1992. G.Grant and F. Swanson. Geomorphic controls on distribution of valley floor surfaces and disturbances in high-gradient streams, western Cascades, Oregon. International Association of Landscape Ecology meeting, Corvallis, OR (with Fred Swanson).

April 8, 1992. Julia Jones and G. Grant. Cumulative effects of timber harvest on peak streamflow in six basins in the western Cascades, International Association of Landscape Ecology meeting, Corvallis, OR.

April 9, 1992. W. Cohen and T. Spies. Using Spatial and spectral properties of remotely sensed imagery to estimate forest structure. Annual meeting of the U.S. Association for Landscape Ecology. Corvallis, Or.

April 9, 1992. Ripple, et al. Remote sensing of forest patterns from the landscape to the regional scale. Annual meeting of the U.S. Association for Landscape Ecology. Corvallis, Or.

April 10, 1992. D. Wallin. Modeling the consequences of alternative cutting rules on pattern and pattern legacy in a forested landscape. Annual meeting of the International Association of Landscape Ecologists, Corvallis, OR.

April 10, 1992. D. Wallin. Influence of species dispersal characteristics and landscape heterogeneity on population persistence in a simple predator-prey system. Annual meeting of the International Association of Landscape Ecologists, Corvallis, OR.

April 10, 1992. J. Ohmann and T. Spies. Concepts and tools for regional-level studies of biological diversity with an example from Pacific Northwest forests. Annual meeting of the U.S. Association for Landscape Ecology. Corvallis, OR.

April 10, 1992. Landscape disturbance and diversity of small mammal habitat. Annual meeting of the International Association of Landscape Ecologists, Corvallis, OR.

April 25, 1992. T. Spies. Biodiveristy from Space. Maintaining biodiveristy in managed landscapes. Symposium of the Cascade Center for Ecosystem Management. Eugene, OR.

April 29, 1992. G. Grant. Some geomorphic principles and paradigms for watershed specialists in changing times, U.S. Forest Service National Hydrology Conference, Phoenix, AZ, April 28 - May 1, 1992 (invited).

May 19, 1992. G.Grant. A state-of-the-art view of stream processes for fisheries biologists, North American Salmonid Stream Habitat Improvement Workshop, Everett, WA (invited).

June 2, 1992. G. Grant. Geomorphic perspectives on riparian zone management, U.S. Forest Service State and Private Forestry Watershed Workshop, Reno, NV (invited).

June 10, 1992. G. Grant. Hydraulic and sedimentologic controls on formation of step-pool sequences in high-gradient streams. Presented at conference 'Dynamics and geomorphology of mountain rivers,' Commission on Theory, Measurement, and Application in Geomorphology, Benediktbeuern, Germany.

June 23, 1992. T. Spies and S. Acker. Retrospective studies of natural partial burns. Field tour and presentation, H.J. Andrews Experimental Forest.

July 1992. A. Hansen. Modeling vertebrate habitats in Pacific Northwest forests under global change. National Conference on Biodiversity in Managed Landscapes; Theory and Practice, Sacramento, CA.

July 8, 1992. G. Grant. Geomorphic and hydrologic principles for ecosystem management, Ecosystem Management workshop, H.J. Andrews Experimental Forest, Blue River, OR

July 8, 1992. T. Spies. Old-growth Legacies and Silvicultural Systems. Ecosystem Management workshop. The Scientific Background for "New" Forestry Practices. H.J. Andrews Experimental Forest.

July 27, 1992. Alternative silvicultural practices and diversity of animal habitat in western Oregon: a computer simulation approach. Annual meeting of the Society for Computer Simulation, San Diego, CA.

August 92. S.L. Garman, A.J. Hansen, D.L. Urban. Simulating landscape and vertebrate habitat dynamics under alternative silvicultural strategies in Pacific Northwest forests. Annual meeting, Ecological Society of America. Honolulu, HI.

August 11, 1992. A. Hansen. Forest productivity and habitat density under ecological forestry: a field and modeling study in the Pacific Northwest. Ecological Society of America Annual meeting, Honolulu, HI.

August 11, 1992. F. Swanson, A. McKee, J. Cissel. New approaches to linking research and management for conservation. Invited talk in symposium conecting applied conservation knowledge with basic ecological research. Annual meeting. Ecological Society of America. Honolulu, HI.

August 14, 1992. T. O'Dell. Presentation on edible mushrooms at "Bough, Beargrass, Mushrooms and Native Plants Workshop," Salem, OR.

August 14, 1992. T. Spies. The diversity and maintenance of old-growth forests. Symposium on biological diversity in managed landscapes: theory and practice. Sacramento, California.

August 26, 1992. A. Hansen. Forest Dynamics in the Pacific Northwest. Invited Lecture at DLO Institute for Forestry and Nature Research, Wageningen, The Netherlands.

September 29, 1992. G. Grant. Hot topics in watershed research, Region 6 Watershed and Fisheries Biology meeting, Hood River, OR.

October 1, 1991. G. Grant. Origin of step-pool sequences in high-gradient streams: a flume experiment. Japan-U.S. Symposium on Snow Avalanche, Landslide, and Debris Flow Prediction and Control. Tsukuba, Japan, (Invited).

October 3, 1992. F. Swanson, L. Norris. The Cascade Center for Ecosystem Management a New Perspectives Learning Center. National Colloquium for University Partnerships. Society of American Foresters. Lake Geneva, WI.

October 24, 1991. G. Grant. A system for managing vertebrate diversity at the landscape scale. Malheur National Forest, John Day, OR.

October 24, 1991. A. Hansen. Understanding and managing ecotones. SCOPE workshop in Landscape Management. Moscow, USSR.

Publications and Reports:

Acker, S., T.Spies, and others. 1992. Retrospective studies of the effects of green tree retention on conifer production and biodiversity on the Willamette National Forest. Proposal was submitted and funded at $100,000 to supplement PNW New Perspectives project.

Boyle, J.R. 1992. Creating new visions of sustainable forestry. Forest Perspectives. 2(1):20-21.

Brooks, D.J. and Grant, G.E. 1992. New perspectives in forest management: background, science issues, and research agenda, Part I. Journal of Forestry, 90(1):25-28.

Brooks, D.J. and Grant, G.E. 1992. New perspectives in forest management: background, science issues, and research agenda, Part II. Journal of Forestry, 90(2):21-24.

Brunson, M. W. 1992. Social acceptability of New Perspectives practices and conditions. Final Project Report. 156 p.

Burditt, L., J. Cissel, A. McKee, F. Swanson. 1992. Cascade Center - examining northwest ecosystems. Inner Voice. 4(4):8. (invited)

Garman, S.L., (et al). Height diameter equations for western species of conifers. To be submitted to Oregon State University, Forest Research Laboratory Publications.

Garman, S.L., A.J. Hansen, D.L. Urban. Simulating dynamics of Pacific Northwest forests using a gap model. To be submitted to Canadian Journal of Forest Research.

Garman, S.L., A.J. Hansen, D.L. Urban and P.F. Lee. In press. Alternative silvicultural practices and diversity of animal habitat in western Oregon: a computer simulation approach. In: P. Luker (ed.) Proceedings of the 1992 Summer Simulation Conference, Society for Computer Simulation, Reno, NV.

Garman, S.L., A.J. Hansen, D.L. Urban and P.F. Lee. 1992. Alternative silvicultural practices and diversity of animal habitat in western Oregon: a computer simulation approach. Proceedings of the Society of Computer Simulation.

Goslin, M. Dynamics of natural mixed age Douglas-fir, western hemlock stands in the central Oregon Cascades originating from stand-replacing fires followed by partial burns. OSU Study Plan.

Grant, G.E. Hydraulic and sedimentologic controls on formation of step-pool sequences in high-gradient streams. Presented at COMTAG workshop 'Dynamics and geomorphology of mountain rivers', Benediktbeuern, Germany, June 8-15, 1992. To be published by Springer-Verlag in their 'Lecture Notes in Earth Sciences' series.

Grant, G.E. New paradigms and perspectives for cumulative effects analysis. To be published in Proceeding of the National Conference of the American Institute of Hydrology, Portland, OR, Oct 21-23, 1992.

Grant, G.E. Some geomorphic principles and paradigms for watershed specialists in changing times. To be published in the Proceeding of the U.S. Forest Service National Hydrology Conference, Phoenix, AZ, April 28 - May 1, 1992.

Grant, G.E., J.A. Jones. Hydrologic effects of forest management on watershed hydrology across a range of spatial scales. Proceedings of the Canberra Symposium. Refereed publication for Journal of Hydrology.

Grant, G.E., Mizuyama, T. 1991. Origin of step-pool sequences in high-gradient streams: a flume experiment. In: Tominaga, M., ed. Proceedings of the Japan-U.S. Symposium on Snow Avalanche, Landslide, and Debris Flow Prediction and Control. Tsukuba, Japan, Sept 30-Oct.3, 1991, p. 523-532.

Grant, G.E., F.J. Swanson. Structure and dynamics of valley floors in mountain streams. Submitted to Geological Society of America Bulletin.

Grant, G.E., F.J. Swanson. 1991. Cumulative effects of forest practices. Forest Perspectives 1(4):9-11.

Hansen, A.J. In prep. Evaluation of ecological forestry: bird community response to canopy tree retention in harvest units in high-elevation Douglas-fir forests. For Ecological Applications.

Hansen, A.J., S.L. Garman, J. Weigand, D.L. Urban. In prep. Simulated responses of avian habitats, wood production and forest economics to alternative silvicultural prescriptions. For Ecological Applications.

Hansen, A.J., S.L. Garman, J. Weigand, D.L. Urban. In prep. Silvicultural approaches for enhancing structural complexity in Douglas-fir plantations: results of a simulation experiment. For Canadian Journal of Forestry Research.

Hansen, A.J., D.L. Urban. In press. Avian response to landscape pattern: the role of species life histories. Landscape Ecology.

Hansen, A.J., and 8 others. In press. Modeling vertebrate habitats in the Pacific Northwest forests under global change: conceptual and methodological issues. In: R. Szaro, (ed). Biodiversity in managed landscapes: theory and practice. Oxford University Press, Cambridge, U.K.

Hansen, A.J., R. Spencer, A. Moldenke, A. McKee. Effects of canopy density on forest productivity and forest diversity. Progress report.

Hansen, A.J., S.L. Garman, B.J. Marks, and D.L. Urban. Submitted. A system for managing vertebrate diversity across multiple-use landscapes. Ecological Applications.

Molina, R. 1992. The role of mycorrhizal symbioses in the health of giant redwoods and other forest ecosystems. In: Proceedings of Giant Sequoias: their place in the ecosystem and society. Gen. Tech. Rep. PSW-xx. Pacific Southwest Station (in press).

Molina, R. 1992. Functional biodiversity of fungi in forest ecosystems: linking above- and belowground ecologies. In: Proceedings of Alaska Biodiversity Conference: maintaining the integrity of Alaska's ecosystems. March 24-26, 1992 (in press).

Molina, R., T. O'Dell, D. Luoma, M. Amaranthus, M. Castellano, K. Russell. In press. Biology, ecology, and social aspects of wild, edible mushrooms in forests of the Pacific Northwest: a preface to managing commercial harvest. Gen. Tech. Rep. PNW-xx. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

O'Dell, T., Luoma, D. and Molina R. 1992. Ectomycorrhizal fungal communities in young and old-growth Douglas-fir stands. Northwest Environmental Journal (in press).

Urban, D.L. 1990. A versatile model to simulate forest pattern. A user's guide to ZELIG version 1.0. University of Virginia, Charlottesville, VA, USA.

Urban, D.L., S.L. Garman. In prep. Feedbacks between tree life history traits and the soil water balance: implications to forest succession in the Pacific Northwest.

Wallin, D.O., F.J. Swanson, B. Marks. Submitted. A simulation model of alternative forest cutting patterns: the consequences of shifting disturbance regimes on landscape pattern and pattern inertia. Manuscript for submission to Ecological Applications. October 92.

Weigand, J.F., A.L. Burditt. 1992. Economic implications for management of structural retention on harvest units at the Blue River Range District, Willamette National Forest, Oregon. Portland, OR: U.S. Department of Agriculture, Pacific Northwest Research Station, Research Note PNW-RN-510. 17 p.

Weigand, J.F., R.W. Haynes. Economic considerations for management of forest stands for biological diversity (manuscript is written; updating on data runs is needed as computer models have been updated).

Weigand, J.F., K.P. Connaughton. Economic activity at the landscape level: background, issues, research, and applications.

Swanson, F.J., J.F. Franklin. 1992. New forestry principles from ecosystem analysis of Pacific Northwest forests. Ecological Applications. 2(3):262-274.

Swanson, F.J., S. Wondzell, G.E. Grant. 1991. Landforms, disturbances, and ecotones. In: Di Castri, F., Hansen, A.J., eds. Landscape Boundaries: Consequences for Biotic Diversity and Ecological Flows: Springer-Verlag, New York, p. 305-323.

Swanson, F.J., R.P. Neilson, G.E. Grant. 1992. Some emerging issues in watershed management: landscape patterns, species conservation, and climate change. In: Naiman, R., and Sedell, J. eds. New Perspectives for Watershed Management: Balancing Long-Term Sustainability with Cumulative Environmental Change: Springer-Verlag, New York, p. 307-323.

Spies, T.A., R. Ripple, and G.A. Bradshaw. Dynamics and pattern of a managed coniferous forest landscape. Submitted to Ecological Applications.

Workshops in Development:

March 16-25, 1993. New concepts in ecosystem management. Olympic Center sponsor. 3 Cascade Center presenters.

April/May 1993. Martin, Swanson, Cissel, Diaz and other area ecologists.
Workshops on ecosystem management for National Forests and others in western Oregon.

May, 1993. T.Spies and J.Ohmann. Workshop on regional ecology for PNW.

August 23-27, 1993. Swanson, Gabe Tucker, Norm Johnson on steering committee from Corvallis community, co-organized by Olympic Center, and Cascade Center. Creating a Forestry for the 21st Century: Integrating New Concepts with Old.

Workshops and symposia:

Workshops and Symposia organized by Cascade Center in which Cascade Center for Ecosystem Management folks had major roles.

February 25, 1992. J. Cissel. Umpqua NF Landscape Planning Workshop. Roseberg, OR.

March 10-11, 1992. A.McKee and S. Stafford. Workshop: Improving Natural Resource Management Through Monitoring. 170 attendees. Corvallis, OR.

April 25, 1992. Cascades Center Public Workshop, "Biological diversity in Cascade Forests-Trends and options for the future," 100 attendees. Eugene, OR.

April 28-30, 1992. Presented by Cascade Center and lead by D. Perry. Ecosystem Management Workshop for Oregon Department of Forestry personnel.
Corvallis, OR.

July 7-9, 1992. W. Emmingham and W. Ferrell. Ecosystem Management Workshop–H.J. Andrews Experimental Forest.

July 23-24, 1992. J. Jones (OSU), R.Church(UCSB)–leaders (largely through R-5 funding), N.Johnson, F.Swanson, and J.Sedell–co-leaders. Workshop on ecological principles for management of Pacific Northwest watersheds to protect fish, water, and riparian resources.

Software development:

Lotus 1-2-3 macro to predict from specific ZELIG outputs the tree heights and volumes, log volumes, stumpage values, lumber volumes, and lumber values from 1990 to 2040 for major trees species in the August Creek watershed, with user-specified stump height and log lengths.

Olympic Natural Resources Center (ONRC)

Graduate Dissertations & Theses

Chen, J. 1991. Edge effects: Microclimatic pattern and biological responses in old-growth Douglas-fir forests. Ph.D., diss., University of Washington, Seattle, WA.

Lock, P. 1991. Old-growth riparian birds of the Olympic Peninsula: Effects of stream size on community structure. Master's thesis, University of Washington, Seattle, WA.

Schrader, B. 1991. Vegetation and conifer seedling response to clearcutting of alluvial spruce sites in southeast Alaska. Master's thesis, University of Washington, Seattle, WA.

Seidel, K.D. 1992. Statistical properties and applications of a new measure of joint space use for wildlife. Master's thesis, University of Washington, Seattle.

Publications:

Aztet, T., D.L. Wheeler, B.Smith, J.F. Franklin, G.Riegel, D. Thornburgh. 1992. Vegetation. Pp. 92-113 in Stephen D. Hobbs, et al (eds), Reforestation practices in southwestern Oregon and northern California. Oregon State University Forest Research Laboratory, Corvallis, OR.

Berg, D.R., N.C. Clement. 1992. Differences in the diversity of vegetation between mature and old-growth forests in the Cascade Range of the Pacific Northwest, USA. Northwestern Environmental Journal 8(1):190-193.

Chen, J., J.F. Franklin. 1990. Microclimatic pattern and basic biological responses at the clearcut edges of old-growth Douglas-fir stands. Northwestern Environmental Journal 6:424-425.

Chen, J., J.F. Franklin, T. Spies. 1991. Air temperature at forest edges: an empirical model for diurnal air temperature gradients from clearcut edge into the old-growth forest. Ecological Modelling (in press).

Chen, J., J.F. Franklin, T. Spies,. 1991. Contrasting microclimate among clearcut, edge, and interior of old-growth Douglas-fir forest. Ecological Modelling (in press).

Chen, J., J.F. Franklin, T. Spies. 1991. Vegetation responses to edge environments in old-growth Douglas-fir forest. Ecological Applications 2(4):387-396.

Committee on Improving the Science and Technology Programs of the National Park Service. 1992. Science and the National Parks. National Academy Sciences, Washington, DC.

Franklin, J.F. 1992. An ecologist's view of sustainability. Defining Sustainable Forestry. American Forestry Association, Washington, DC (in press).

Franklin, J.F. 1990. Biological legacies: a critical management concept from Mount St. Helens. Pp. 216-219 in Transactions of the fifty-fifth North American Wildlife and Natural Resources Conference. Wildlife Management Institute, Washington, DC.

Franklin, J.F. 1992. The contribution of old-growth to the new forestry. Forestry Industry Lecture Series #23, University of Alberta Faculty of Agriculture and Forestry (in press).

Franklin, J.F. 1992. Forest management and organization. Pp. 172-174 in 1992 Yearbook of Science and Technology. McGraw-Hill, New York.

Franklin, J.F. 1992. Forest stewardship in an ecological age. Farnsworth Lecture Series, College of Environmental Science and Forestry, State University of New York, Syracuse, NY (in press).

Franklin, J.F. 1992. Harmonizing forest utilization and conservation. Pp. 37-53 in Proceedings IUFRO Division Five Conference (Forest Products), Nancy, France. Association Pour La Recherche Sur Le Bois En Lorraine, France.

Franklin, J.F. 1990. Old-growth and the new forestry, Pp. 1-19 in Audrey F. Pearson and Derek A. Challenger (eds), Forests–wild and managed: differences and consequences. Faculty of Forestry, University of British Columbia, Vancouver, Canada.

Franklin, J.F 1991. Old-growth and the new forestry. Pp. 1-11 in Max J. Copenhagen (ed), Proceedings of the New Perspectives Workshop, Petersburg, AK.

Franklin, J.F. 1992. Old-growth forests. Encyclopedia of the Environment. Houghton Miffin Co., New York. (in press).

Franklin, J.F. 1992. Preserving biodiversity: Species, ecosystems or landscapes. Ecological Applications. (in press).

Franklin, J.F. 1991. Scientific basis for New Perspectives in forests and streams. Pp. 25-72 in R.J. Naiman (ed), New Perspectives for Watershed Management (watershed management-balancing sustainability and environmental change). Springer-Verlag, NY.

Franklin, J.F. 1991. The state of National Park Service science at the end of the first century. In W. Tweed (ed), Proceedings of the Sequoia and Kings Canyon National Parks Second Century Conference. Sequoia Natural History Association, Three Rivers, CA.

Franklin, J.F. 1990. Wilderness ecosystems. Pp. 241-261 in J.C. Hendee, G.H. Stankey, R.C. Lucas (eds), Wilderness management, rev. second ed. North American Press of Fulcrum Publishing and International Wilderness Leadership Foundation.

Franklin, J.F., T.A. Spies. 1991. Composition, structure, and function of old-growth Douglas-fir forests. Pp. 71-83 in L.F. Ruggiero, K.B. Aubry, A.B. Carey, and M.H. Huff (eds), Wildlife and vegetation of unmanaged Douglas-fir forests. USDA Forest Service General Technical Report PNW-GTR 285.

Franklin, J.F., T.A. Spies. 1991. Ecological definitions of old-growth Douglas-fir forests. Pp. 61-71 in L.F. Ruggiero, K.B. Aubry, A.B. Carey, and M.H. Huff (eds), Wildlife and vegetation of unmanaged Douglas-fir forests. USDA Forest Service General Technical Report PNW-GTR 285.

Franklin, J.F., D.DeBell, R.Van Pelt, S.Greene. 1990. Thorton T. Munger old-growth forest study. Northwestern Environmental Journal 6:422.

Franklin, J.F., F.J. Swanson, M.E. Harmon, D.A. Perry, T.A. Spies, V.H. Dale, A. McKee, W.K. Ferrell, J.E. Means, S.V. Gregory, J.D. Lattin, T.D. Schowalter, D. Larsen. 1991. Effects of global climatic change on forests in Northwestern North America. The Northwest Environmental Journal 7:233-254.

Franklin, J.F., R. Van Pelt. 1990. Old-growth reference stand network in the Pacific Northwest: Recording long-term ecosystem dynamics. Northwestern Environmental Journal 6:423-424.

Johnson, K.N., J.F. Franklin, J.W. Thomas, J.Gordon. 1991. Alternatives for Management of Late-Successional Forests of the Pacific Northwest. Report to the Agriculture and Merchant Marine and Fisheries Committee of the U.S. House of Representatives. Oregon State University School of Forestry, Corvallis, OR. (Also published in the Congressional Proceedings.)

Halpern, C.B., B.G. Smith, J.F. Franklin. 1991. Forest and meadow communities of the Three Sister Biosphere Reserve. Pp. 3-6 in P.F. Pfolliott and W.T. Swank (eds), People and the temperate region. U.S. Department of State Publication 9839 for U.S. Man and the Biosphere Program.

Henderson, J.A., R.D. Lesher, D.H. Peter, and D.C. Shaw. 1992. Field guide to the forested plant associations of the Mt. Baker-Snoqualmie National Forest. USDA Forest Service, PNW Region, Technical Paper R6 ECOL TP 028-91.

Kirk, R., J.F. Franklin. 1992. The Olympic rain forest: An ecological web. University of Washington Press, Seattle, WA.

Kohm, K. 1992. Endangered Species. In Earth Journal Buzzwork Books, Boulder, Colorado.

Lowe, S., J.Chen, and J.F. Franklin. 1992. Simulating edge effects of air temperature within remnant old-growth Douglas-fir forest patches. Landscape Ecology (in press).

North, M., J.F. Franklin. 1990. Post-disturbance legacies that enhance biological diversity in a Pacific Northwest old-growth forest. Northwestern Environmental Journal 6:427-429.

Parker, G.G., D.C. Shaw, A.P. Smith. 1992. Long-term studies of canopies: An international network for research on the outer forest canopy. Sebyana (in press).

Pyle, C. 1991. Review of Long-Term Forest Dynamics. Forest and Conservation History 35(3):142-143.

Pyle, C. 1991. Managing for ecological values. News on Siouxon 1(4):3.

Pyle, C., J.F. Franklin. 1992. An examination of differences in the accessibility of habitat for four types of old-growth dependent organisms. Northwest Environmental Journal 8(1):

Riegel, G., B.G. Smith, J.F. Franklin. 1992. Foothill oak woodlands of the interior valleys of southwestern Oregon. Northwest Science 66(2):66-76.

Samson, F.B., P. Alaback, J. Christner, T. DeMeo, A. Doyle, J. Martin, J. McKibben, M. Orme, L.Suring, K. Thompson, B.G. Wilson, D.A. Anderson, R.W. Flynn, J.W. Schoen, L.G. Shea. J.F Franklin. 1991. Conservation of rain forests in Southeast Alaska: Report of a Working Group. Pp. 96-113 in J.E. Rodiek and E.G. Bolen (eds), Wildlife and habitats in managed landscapes. Island Press, Washington, DC.

Shaw, D.C., D.R. Berg, J.F, Franklin. 1992. A tower crane for canopy research in temperate coniferous rain forests, Washington State, USA. Selbyana (in press).

Shaw, D., J. Greenleaf, D. Berg. 1992. Monitoring new forestry. Environmental Monitoring and Assessment (in press).

Smith, G., J.F. Franklin. 1990. Olympic Natural Resources Center created. Northwestern Environmental Journal 6:441-442.

Smith, G., J.F. Franklin. 1991. Olympic Natural Resources Center will be focal point for forest research. Totem 33(1):18-19.

Spies, T.A., J.F. Franklin. 1991. The structure of natural young, mature and old-growth Douglas-fir forests in Washington and Oregon. Pp. 91-111 in L.F. Ruggiero, K.B. Aubry, A.B. Carey, and M.H. Huff (technical coordinators), Wildlife and vegetation of unmanaged Douglas-fir forests. USDA Forest Service General Technical Report PNW-GTR 285.

Spies, T.A., K.A. Vogt, J.F. Franklin, R. Van Pelt. 1990. Above- and below-ground response of coniferous ecosystems to tree-fall gaps. Northwestern Environmental Journal 6:435-436.

Swanson, F.J., D.R. Berg. 1991. Ecological roots of new approaches to forestry. Forest Perspectives 1(4):6-8.

Swanson, F.J., J.F. Franklin. 1991. New forestry principles from ecosystem analysis of Pacific Northwest forests. Ecological Applications (in press).

Swanson, F.J., J.F. Franklin, J.R. Sedell. 1990. Landscape patterns, disturbance, and management in the Pacific Northwest, USA. Pp. 191-213 in Zonneveld and Forman (eds), Changing landscapes: An ecological perspective. Springer-Verlag, New York.

Weigand, J.F., R.W. Haynes. 1991. High quality forestry alternatives for Western Washington: A problem analysis. Economic and Social Values Research, Pacific Northwest Research Station, USDA Forest Service, Portland, Oregon.

Published Abstracts

Chen, J. 1992. Defining landscape patterns of biotic and abiotic variables. Sixth Annual Society for Conservation Biology Meeting Proceedings.

Chen, J., J.F. Franklin. 1992. Microclimate and its variability in the old-growth Douglas-fir forest. Supplement to Bulletin of the Ecological Society of America: Program and Abstracts, 77th ESA Meeting, Volume 73, No. 2.

Chen, J., J.F. Franklin, T.A. Spies. 1992. An empirical model for diurnal air temperature pattern from clear-cut edges into the old-growth Douglas-fir forests. Regional Landscape Change: Impacts of Climate and Land Use, 7th Annual U.S. Landscape Ecology Symposium Proceedings.

Chen, J., J.F. Franklin, T. Spies. 1992. Managing forest edges to improve habitat conditions. Regional Landscape Change: Impacts of Climate and Land Use, 7th Annual U.S. Landscape Ecology Symposium Proceedings.

Greenberg, J.D., J.F. Franklin. 1992. Selecting reserve areas for maintenance of environmental values on forested drainages. Regional Landscape Change: Impacts of Climate and Land Use, 7th Annual U.S. Landscape Ecology Symposium Proceedings; and Supplement to Bulletin of the Ecological Society of America: Program and Abstracts, 77th ESA Meeting, Volume 73, No. 2.

Lowe, J.S., J. Chen, J.F. Franklin. 1992. Integrating edge effects into a landscape perspective- a simulation approach. Regional Landscape Change: Impacts of Climate and Land Use, 7th Annual U.S. Landscape Ecology Symposium Proceedings.

Lowe, J.S., J.F. Franklin. 1992. Spatial analysis of vegetation, soil moisture and litterfall during canopy closure in young Douglas-fir stands. Supplement to Bulletin of the Ecological Society of America: Program and Abstracts, 77th ESA Meeting, Volume 73, No. 2.

Pyle, C. 1992. Landscape configuration and animal habitat use: changes through time. Supplement to Bulletin of the Ecological Society of America, Program and Abstracts-77th ESA Meeting, Volume 73, No. 2.

Pyle, C. 1992. Windfalls in the Siouxon Drainage, Southwestern Washington, USA. Northwest Science Association Annual Meeting Proceedings.

Pyle, C., E.R. Buckner, J.C. Rennie, E.E.C. Clebesch. 1991. Spatial and temporal linkages among site factors, historical disturbances, and current vegetation: an example from Great Smoky Mountains National Park, USA. Regional Landscape Change: Impacts of Climate and Land Use, 7th Annual U.S. Landscape Ecology Symposium Proceedings.

Working papers and briefing papers (available through the Olympic Center)

Berg, D.R., 1991. Proceedings of First Biannual Regional Alternative Silvicuture Conference.

Berg, D.R., G.Smith, J.F. Franklin. 1990. Canopy access systems: A forest ecosystem research facility for the Olympic Natural Resources Center.

DeFarrari, C. 1991. Distribution and impact of exotic plants on the Olympic Peninsula (research proposal).

Edmonds, R.L., J. Marra. 1991. Decomposition processes and invertebrate species diversity in relation to coarse woody debris in old-growth and clear-cut stands on the Olympic Peninsula (research proposal).

Greene Engineering Company. 1992. Canopy access facility for the western olympic peninsula–engineering assessment of potential sites for the olympic canopy crane.

Greenleaf, J., D.C. Shaw, D.R. Berg. 1991. Monitoring structural retention units in the Washington and Oregon Cascade Mountains: Report on the methods and establishment.

Lowe, J.S. 1991. Canopy closure in young Douglas-fir stands: An ecological analysis.

Marra, J. 1992. The role of coarse woody debris in maintaining site productivity and biological diversity in clear-cuts.

North, M. 1991. Models for green-tree retention: A literature review.

North, M. 1992. Productivity and consumption of hypogeous sporocarps in Pacific Northwest forests.

North, M. J.F. Franklin. 1991. Forest stand structure of disturbed spotted owl habitat in the Pacific Northwest (grant proposal).

Shaw, D.C. 1992. Canopy access facility for the Western Olympic Peninsula–potential sites for the olympic canopy crane.

Shaw, D.C. 1991. Proceedings from the olympic canopy crane siting meeting, November 14-15.

Shaw, D.C. 1991. Siting a canopy crane in a temperate forest–compiled response to canopy access system questionnaire.

Soll, J. 1992. First year survival of subalpine seedlings.

Stofel, J. 1991. Leave strips as forest habitat refugia on some commercial forest clearcuts in western Washington.

Stofel, J. 1992. Wildlife use of green tree retention aggregates on two Plum Creek Timber Company timber sales.

Sugg, P.M. 1992. Bibliography for arthropod studies in forest canopies: a general and specific works.

Weigand, J.F., A.L. Burditt. 1991. Economic implications for retention of stand structure on harvest units at Blue River District, Willamette National Forest, Oregon.

Other Products PNW Scientists

Manuscripts or Publications:

Publication in process on pruning, pine shoot borer.

Amaranthus M.P. 1992. Mycorrhizae, forest disturbance and regeneration in the Pacific Northwestern United States. In: D.J. Read Ed. proceedings of Third European Conference on Mycorrhizae. Sheffield England (in press).

Thomas, Ted B., Lehmkuhl, John F.; Raphael, Martin G.; DeBell, Dean S. 1992. Sites for retrospective studies: opportunities for research in western Washington and Oregon. Gen. Tech. Rep. PNW-GTR- Portland, OR : U.S. Department of Agriculture, Forest Servicve, Pacific Northwest Research Station, p. (final editorial revisions in process).

Cromack, K. Jr., Entry, J.A., Kelsey, R.G., Martin, N.E. Effect of thinning and thinning plus fertilization on Douglas-fir: Response to Armillaria ostoyae infection.

DeBell, D.S. and Curtis, R.O. 1991. The role of silviculture in new forestry. Proc. 12th Annual Forest Vegetation Management Conference. Redding CA.

DeBell, D.S. and Curtis, R.O. Silviculture and new norestry in the Pacific Northwest. (Submitted to Journal of Forestry, now being revised after review).

Papers:

Study Plan for review of public participation techniques and applications.

Draft article for the Journal Forum waiting for the RPA alternative to be completed.

Synthesis document on pest and animal damage in the Eastside forests. Paper submitted to JFEM.

Guidelines on the development of yield functions for older stands and species other than Douglas-fir. Information will be used by Timber and Planning in writing planning guidelines.

Paper that will describe preliminary fuel consumption models and improved techniques for estimating fuel loadings for new situations. September 1993.

Presentations:

Abstract, Presentation, and Verbatim Transcript - Immediate fire effects and air quality tradeoffs. Colloquium on Use of Prescribed for Managing Fuels and Ecosystem Communities versus Subsequent Damage from Wildlfire. January 24, 1992. Portland OR. Region 6 A&FM and PNW sponsored. Verbatim transcript to be published December 1993.

Abstract and Presentation - Managing fuels with fire–an ecosystem approach. Conference on Applying new forestry in Pacific Northwest forests. October 20-21, 1992. SAF sponsored. Portland, OR.

Progress Reports:

Progress Report describing environmental effects of using chloropicrin to control root rot.

The Fish Creek Study will result in a report for distribution to fishery, wildife, and forest managers. The work will subsequently be published in a technical journal.

Study Plan to test the efficiency of thinning and underplanting in young (about age 30) stands of Douglas-fir in the Oregon Coast Range. November 1992.

Appendix IV - List of Scientists and Contributors

Contributers	Speciality	Local	City	State	Affliation
Acker, S.	Post-Doc	OSU	Corvallis	OR	HJA
Alaback, P.	Ecologists	PNW	Juneau	AK	
Amaranthus, M.	Scientists	SIK	GrantsPass	OR	
Aubry, K.	Scientists	PNW	Wenatchee	WA	
Berg, D.	Silviculture	UOFW	Seattle	WA	ONRC
Boyle, J.R.	Professor	OSU	Corvallis	OR	HJA
Bradshaw, G.A.	Scientist	PNW	Corvallis	OR	HJA
Brooks, D.J.	Economics	PNW	Corvallis	OR	HJA
Brunson, M.W.	Professor	USU		MT	HJA
Burditt, L.A.	District Ranger	WILL	Eugene	OR	HJA
Carey, A.	WDLF Biologist	PNW	Olympia	WA	
Castellano, M.	Research Forester	PNW	Corvallis	OR	
Chen, J.	Ecology	UOFW	Seattle	WA	ONRC
Cissel, J.	Management	OSU	Corvallis	OR	HJA
Clark, R.	Social Consortium	PNW	Seattle	WA	
Cohen, W.	Scientists	PNW	Corvallis	OR	HJA
Connaughton, K.	Research Forester	PNW	Portland	OR	
DeBell, D.	Scientists	PNW	Olympia	WA	
Defarrari, C.	Grad Student	UOFW	Seattle	WA	ONRC
Edmonds, R.	Professor	UOFW	Seattle	WA	ONRC
Emmingham, B.	Silviculture	OSU	Corvallis	OR	HJA
Ferrell, W.	Retired	OSU	Corvallis	OR	
Franklin, J.	Ecology	UOFW	Seattle	WA	ONRC
Garman, S.	Ecology	OSU	Corvallis	OR	HJA
Gordon, G.	Hydrology	PNW	Corvallis	OR	HJA
Goslin, M.	Grad Studen	OSU	Corvallis	OR	HJA
Greene, S.	Forest Ecology	PNW	Corvallis	OR	HJA
Gregory, S.	Stream Ecology	OSU	Corvallis	OR	HJA
Halpern, C.B.	Professor	UOFW	Seattle	WA	ONRC
Hansen, A.	Wildlife	OSU	Corvallis	OR	HJA
Harmon, M.	Forest Ecology	OSU	Corvallis	OR	HJA
Haynes, R.	Economic	PNW	Portland	OR	
Hemstrom, M.	Ecology	WILL	Eugene	OR	HJA
Henderson, J.	Area Ecologist	MBS	Mountlake Terrance	WA	
Huff, M.	WDLF Ecologist	R6	Portland	OR	
Johnson, K.N.	Professor	OSU	Corvallis	OR	HJA
Jones, J.	Professor	OSU	Corvallis	OR	HJA
Kohm, K.	Info. Spec.	UOFW	Seattle	WA	ONRC
Larsen, D.	Grad Student	UOFW	Seattle	WA	ONRC
Latten, J.	Insect Ecology	OSU	Corvallis	OR	HJA
Lock, P.	Grad Student	UOFW	Seattle	WA	ONRC
Lowe, J.S.	Grad Student	UOFW	Seattle	WA	ONRC

Appendix IV: List of Scientists and Contributors

Contributers	Speciality	Local	City	State	Affiliation
Luoma, D.	Ecologist	PNW	Corvallis	OR	HJA
Maguire, D.	Professor	UOFW	Seattle	WA	ONRC
Marra, J.	Grad Student	UOF	Seattle	WA	ONRC
Moldenke, A.	Insects Ecology	OSU	Corvallis	OR	HJA
Molina, R.	Biotanist	PNW	Corvallis	OR	
Norris, L.	Professor/Dean	OSU	Corvallis	OR	HJA
O'Dell, T.	Grad Student	OSU	Corvallis	OR	HJA
Ohmann, J.	Inventory	PNW	Corvallis	OR	HJA
Pyle, C.	Grad Student	UOFW	Seattle	WA	ONRC
Ripple, R.	Professor	OSU	Corvallis	OR	HJA
Schrader, B.	Grad Student/COOP	UOFW	Seattle	WA	ONRC
Seidel, K.D.	Grad Student	UOFW	Seattle	WA	ONRC
Shaw, D.	Ecology	UOFW	Seattle	WA	ONRC
Smith, G.R.	Management	UOFW	Seattle	WA	ONRC
Soll, J.	Grad Student	UOFW	Seattle	WA	ONRC
Spencer, R.	Grad Student	OSU	Corvallis	OR	HJA
Spies, T.	Forestry Ecology	PNW	Corvallis	OR	HJA
Stofel, J.	Grad Student	UOFW	Seattle	WA	ONRC
Swanson, F.	Land-scape	PNW	Corvallis	OR	HJA
Tucker, G.	Professor	OSU	Corvallis	OR	HJA
Urban, D.L.	Professor	CSU	Denver	CO	HJA
Van Pelt, R.	Grad Student	UOFW	Seattle	WA	ONRC
Wallin, D.O.	WDLF Ecology	OSU	Corvallis	OR	HJA
Weigand, J.	Research Forester	PNW	Portland	OR	
Wondzell, S.	Grad Student	OSU	Corvallis	OR	HJA

Appendix V - Demonstration Areas

PACIFIC NORTHWEST REGION/PNW RESEARCH STATION

Contact: T.Tolle:R06A
Revised: November 5, 1992

Colville NF
Little Pend Oreille South Mill Demonstration Area
Features:

Auto tour designed to inform public of strategies the forest employs to implement Forest Plan. The following are involved: wetlands, streams, campsites, cattle uses, timber harvest, visually significant areas, and wildlife habitat.

Partners:

Range permittees, Arden Tree Farm, local mill, State Wildlife Department, and plus 16 other partners to a lesser degree.

Size of Area: 5,000 acres
Contact:

Leona Roderick, Colville RD, Colville NF
Telephone 509-684-4557

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Deschutes NF
Proactive Blackbark Forest Health and Utilization Project
Features:

Forest health, visual quality management, smoke-reduction, long-term site productivity, new machinery and utilization strategies developed to prevent beetle epidemic and increase wood utilization, market development, wildlife management, and evolving silviculture strategies.

Partners:

Service contractors, Oregon Department of Fish and Wildlife, PNW Research Station, and timber companies.

Size of Area: 110,000 acres

Estimated cost: $25,000 for demonstrations, brochure preparation, and display.

Results:

Healthy ecosystem, meet visual quality and wildlife habitat objectives over long-term, and smoke-reduction.

Status: Active and monitoring
Contact:

Don Pederson
Telephone 503-383-5700

****

Deschutes NF
Backyard Wildlife Habitat Demonstration Nature Scape
Features:

Demonstration of wildlife habitat improvement techniques applied to an urban backyard setting "Ecosystem Management can start at home." Community volunteers provided labor and learned techniques. Display of low maintenance native plant landscaping. Environmental and botanical education opportunity. Contributes to "Watchable Wildlife" program.

Partners:

Oregon Department of Fish and Wildlife, Audubon Society, and community volunteers

Status: Ongoing
Contact:

Maret Pajutee, District Ecologist
Telephone 503-383-5700

****

Deschutes NF
Newberry National Volcanic Monument
Features:

10,000 years of human occupation. Outstanding archaeological and geologic attributes. Big Obsidian Flow (1300 years old) easily accessible by trail. Cornerstone of Monument planning is ecosystem management. Balancing visitor access (150,000 visitors in 1992) with Congressional mandate to preserve and protect for future generations. Pilot program to re-establish old growth ponderosa pine ecosystems. Active winter recreation use (snowmobiling and cross-country skiing). Outstanding fishing opportunities in East and Paulina Lakes.

Partners:

Monument created by citizens of central Oregon. Active involvement from a variety of interests: tourism, fish and wildlife, recreation, environmental, anglers, geothermal, timber, and Chambers of Commerce. Consensus plan for creating Monument is a model for bringing together diverse interests to achieve a common goal. Planning effort includes Advisory Council made up of 11 members from the community.

Size of Area: 51,000 acres
Status: Preparing comprehensive management plan during 1992 and 1993
Congressional District: 02 Bob Smith
Contact:

Sally Collins
503-383-5512
Carolyn Wisdom
503-383-4702

****

Deschutes NF
Long-term Bald Eagle Nesting Habitat Maintenance
Features:

Mature and old-growth ponderosa pine stand maintenance. Reversal of trend toward white fir climax and lodgepole pine understory stand dominance, reduction of catastrophic stand loss from fire, bark beetles, and spruce budworm. Maintenance of mature and old-growth forest habitat for ponderosa pine associated wildlife species. Uneven-aged management. Using new technologies and wood product markets to achieve management objectives.

Partners:

Oregon State University, Cooperative Wildlife Research Unit, timber industry, and thinning contractors

Size of Area: Over 700 acres treated over 5-years in 8 bald eagle management areas.
Status: Ongoing from implementation through monitoring.
Congressional District: 02 Bob Smith
Contact:

Gary Milano
Telephone 503-383-4701

****

Deschutes NF
Tumalo Creek Fish Restoration Project
Features:

Fisheries, water quality, ecological restoration, watershed management, and diversity

Partners:

Trout Unlimited, Deschutes River Restoration and Enhancement Board, Fish America, Central Oregon Fly Fishers, Bend, and LaPine School Districts

Size of Area: 1-1/8 miles of stream
Status: Completed (Monitoring in progress)
Congressional District: 02 Bob Smith
Contact:

Tom Felando
Telephone 503-383-4701

****

Fremont NF
South-Central Oregon Mule Deer Habitat Demonstration
Features:

The basic objective is the enhancement of mule deer habitat quality through non-traditional and creative vegetative management techniques. Focus will be on management of understory trees and shrubs, incorporation of landscape scale harvest patterns and uneven-aged management, development of small log and biomass markets, and the enhancement of plant biodiversity. Principle ecosystems management considerations include the maintenance of mule deer cover, improvement of forest health, and sustaining moderate levels of wood production. The demonstration is expected to build on an accelerate efforts already being implemented within the old reservation lands and will be an important focus for the Ecosystems Management program on the Fremont NF. A study has been initiated to calibrate and test the Interagency Mule Deer Model as a key tool for landscape level analysis. The effort is seen as a long-term commitment because of the broad scope, extensive landscape impacts, and the number of partners sharing an ownership.

Partners:

A panel composed of Fremont and Winema National Forest representatives, timber industry, the Klamath Tribe, Oregon Department of Fish and Wildlife, Oregon Hunters Association, University of Idaho, and the Technical Advisory Committee is being established.

Size of Area:

Bly Ranger District (approximately 115,000 acres within the former Klamath Tribal Reservation boundaries).

Status:

All three stages (planning, implementation, and monitoring). Initial meetings have been conducted with partners to clarify basic objectives and responsibilities. A study plan has been negotiated with the University . of Idaho for the testing and calibration of the Interagency Mule Deer Model.

Congressional District: 02 Bob Smith

Contact:

Mike Schafer
503-947-2151

Terry Hershey
503-947-2151

****

Fremont NF
Youth Education Camp
Features:

Environmental and resource management education.

Partners:

Klamath Tribe, Weyerhauser, other industry representation, and the Oregon Institute of Technology. Internal collaboration and coordination will involve the three Forests: Fremont, Winema and Modoc.

Size of Area: Entire forest
Location:

Oregon Institute of Technology, (for classroom lecture), Cottonwood Organization Camp, and Lakeview Ranger District (field activities).

Status: Ongoing
Congressional District: 02 Bob Smith
Contact:

Joe Tague, District Ranger, Lakeview RD
Telephone 503-947-3334

****

Fremont NF
Elderhostel Program Support
Features:

Timber harvest, milling, silviculture, wildlife, fisheries, range management, soils, geology, hydrology and watershed management, and fire fuels management. Integrated management is a common thread that runs through all presentations. The role our forest land management plan plays in assuring an integrated approach to resource management is noted continuously.

Partners:

The Elderhostel program is administered through our local Lakeview Chamber of Commerce, but is international in scope. Typically the participants span the United States and Canada with citizens of other countries occasionally represented. External publics supporting the overall Elder Hostel program in Lake County, include: local sawmills, Lake County Chamber of Commerce contacts, local elementary and high school instructors, local subject experts, and faculty from the Oregon Institute of Technology in Klamath Falls, Oregon.

Size of Area: Entire forest
Status: Ongoing
Congressional District: 02 Bob Smith
Contact:

Roy Bergstrom
503-947-2151

****

Gifford Pinchot NF
Kalama Timber Sale
Features:

Landscape and stand-level integrated resource management plan, green tree, snag, large woody material, riparian area retention in harvest units, minimum old-growth habitat fragmentation, and mimicking of natural disturbances.

Partners:

Industry and public involvement

Size of Area: 27,000 acres
Status: Active
Congressional District: W3 Jolene Unsoeld
Contact:

S.Kimball
Telephone 206-247-5473

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Gifford Pinchot NF
Siouxon Project
Features:

Second growth or old-growth stands, watershed level landscape ecology and biodiversity analysis, stand and landscape structure analysis using a snag replacement model, sociology research, snag and woody material research, GIS data bases display, and SNAP model.

Partners:

Olympic Natural Resources Center, Washington State University, Washington State University (Vancouver Branch), and Clark-Skamania Fly-Fishers.

Size of Area: 23,000 acres
Status: Draft EIS
Congressional District: W4 Sid Morrison
Contact:

Gregory L. Cox
Telephone 509-427-5645

****

Gifford Pinchot NF
Upper Clearwater Project
Features:

Integrated resource management plan, recovery following 1980 blast of Mt. St. Helens riparian and wildlife habitat enhancement, succession, colonization and nutrient cycling research, maintenance of long-term productivity following heavy disturbance, demonstration of landscape, and stand approaches to young stand development.

Partners:

PNW Research Station, Washington State Department of Wildlife, Gifford Pinchot Task Force, Northwest Forestry Association, Washington Trails Association, Battleground School District, University of Washington, Weyerhauser, and Washington State Department of Natural Resources.

Size of Area: 13,000 acres
Status: Planning and research
Congressional District: W3 Jolene Unsoeld
Contact:

S.Kimball
Telephone 206-247-5473

****

Gifford Pinchot NF
Lone Butte Wildlife Emphasis Area
Features:

Integration of wildlife habitat enhancement and recreation opportunity, implementation of socially, ecologically, economically, and politically acceptable management activities.

Partners:

Vancouver Wildlife League, Gifford Pinchot Task Force, Columbia Gorge Audubon Society, Skamania County Sports Council, Northwest Forestry Association, Wildlife Habitat Enhancement Now (WHEN), and Rocky Mountain Elk Foundation.

Size of Area: 2,600 acres
Status: Active
Congressional District: W4 Sid Morrison
Contact:

R.Mendez
Telephone 509-395-2501

****

Gifford Pinchot NF
Tumble Creek Basin
Features:

Integration of ecologically-based watershed recovery, wildlife and fisheries habitat enhancement, soil productivity maintenance enhancement, and engineering (road obliteration).

Partners:

Army Corps of Engineers, Washington Department of Ecology, Environmental Protection Agency, and Norm Thompson Company.

Size of Area: 4,500 acres
Status: Active
Congressional District: W3 Jolene Unsoeld
Contact:

M.Kreiter
Telephone 206-497-7565

****

Gifford Pinchot NF
Clear Butte Crystal Timber Sale
Features:

Retention of spotted owl habitat stand components, group selection, uneven-aged harvest system, even-aged group shelterwood, maintenance of long-term site productivity, and public tours.

Partners:

Gifford Pinchot National Forest Citizen's Advisory Board, Northwest Forestry Association, and local publics (planning).

Size of Area: 91 acres
Status: Monitoring
Congressional District: W3 Jolene Unsoeld
Contact:

S.Kimball
Telephone 206-247-5473

****

Gifford Pinchot NF
Sawtooth Huckleberry Fields
Features:

Integration of TES habitat, recreation, cultural resource, research, huckleberry field management, and integration of Native American activities authorized by treaties and legislation.

Partners:

Yakima Indian Nation and local businesses.

Size of Area: 1,500 acres
Status: Ongoing
Congressional District: W4 Sid Morrison
Contact:

J.Martinez
Telephone 509-395-2501

****

Malheur NF
Genesis New Perspectives Demonstration
Features:

Multiple resource management: forest health, long-term sustainable ecosystem based on increased biodiversity, range, watershed, soil, wildlife, recreation, timber, visual values, collaboration with other managers, universities, and scientists.

Partners:

Oregon Department of Forestry, Oregon Department of Fish and Wildlife, timber purchasers, environmental groups, grazing association, State, County, Tribal, and city governments, local conservation groups, and adjacent landowners.

Size of Area: 9,255 acres
Status: Some ongoing, some in planning stage, and some monitoring (range).
Congressional District: 02 Bob Smith
Contact:

William E. Ray Jr., District Ranger, Prairie City Ranger District
Telephone 503-820-3311

****

Mt. Baker-Snoqualmie NF
Timber Management Wildlife Study
Features:

Thinning project to develop late successional structure, may use uneven-aged management. Proposal for administrative study for sampling small prey as forge base for spotted owl.

Partners:

PNW Research Station and forest ecologist.

Size of Area: 1600 acres
Status: Proposed
Congressional District: W2 Al Swift
Contact:

P.Reed
Telephone 206-436-1155

****

Mt. Baker-Snoqualmie NF
Miscellaneous Forest Products
Features:

Miscellaneous forest products, firewood within the context of air quality biodiversity, and course woody debris with specific monitoring plans.

Partners:

Bough sale operators,

Size of Area: 127,000 acres
Status: Completed
Congressional District: W8 Rod Chandler
Contact:

S.Woolley
Telephone 206-825-6585

****

Mt. Baker-Snoqualmie NF
Sauk Valley Demonstration Area
Features:

Self-guided tour along Mt. Loop Highway describing contemporary forest management, watershed and fish habitat rehabilitation, new forestry, recreation opportunities, and wildlife management.

Partners:

University of Washington, Audubon Society, Darrington Community Development Committee, and Skagit System CO-OP.

Size of Area: Sauk Valley
Status: Various levels of planning, ongoing, and completed projects.
Congressional District: W2 Al Swift
Contact:

Fred Harnisch
206-435-1155

****

Mt. Baker-Snoqualmie NF
Iron Goat Trail
Features:

Self-guided walking tour providing interpretation of cultural historical and natural resource values in the Stevens Pass Area, development of an environmental education curriculum package, and possible video for public television.

Partners:

Volunteers for Outdoor Washington, Puget Sound Power and Light, Association of King County Historical Societies, Rails-to-Trails Conservancy, Alpine Lakes Protection Society, University of Washington (advanced interpretive class) College of Forest Resources.

Size of Area: Stevens Pass Area
Status: Ongoing
Congressional District: W2 Al Swift
Contact:

I.Ritchie
Telephone 206-677-2414

****

Mt. Baker-Snoqualmie NF
Green River Watershed Restoration
Features:

Holistic watershed rehabilitation, municipal watershed, integrated inland and anadromous fisheries, partnership development with adjacent landowners and co-managers, research on reservoir capacity, landscape scale planning, and timber sale planning in municipal watershed.

Partners:

Muckleshoot Indian Tribe, City of Tacoma, Washington Department of Fisheries, and Washington Department of Wildlife.

Size of Area: 36,000 acres
Status: Ongoing
Congressional District: W8 Rod Chandler
Contact:

F.Goetz
Telephone 206-888-1421

****

Mt. Baker-Snoqualmie NF
Self-Guided Auto Tour White River Ranger District.
Features:

Self-guided auto tour to showcase: (a) wildlife forage production in winter range, (b) fish habitat improvement and rehabilitation, (c) developed and dispersed recreation opportunities, and (d) timber management "new forestry."

Partners:

Tacoma Audubon, Trout Unlimited, King County Sports Council, and Enumclaw Garden Club

Size of Area: Huckleberry Creek and west Fork White River area.
Status: Ongoing
Congressional District: W8 Rod Chandler
Contact:

T.Lewis
206-825-6585

****

Mt. Baker-Snoqualmie NF
Integration of Watershed and Fisheries Management Using River Basin Planning Groups.
Features:

Integrate watershed and fisheries projects and activities across jurisdictional and land ownership boundaries. The development of a video updating efforts of integrating management across jurisdictional and land ownership boundaries.

Partners:

White River Fishery Cooperative Advisory Group, Deer Creek Coordinating Planning Group, Nooksack River Advisory Group, The Stillaguamish Early Action Watershed Group, and The Finney Creek Group.

Size of Area: forest-wide
Status: Ongoing
Congressional District: W8 Rod Chandler
Contact:

J.Doyle
Telephone 206-744-3200

****

Mt. Baker-Snoqualmie NF
I-90 Corridor Project
Features:

Development and presentation of displays that would describe the variety of activities, their inter-relationship, and results of integrated management in the I-90 Corridor.

Partners:

Puget Sound Power and Light, Bonneville Power Administration, Washington States Parks, Washington Department of Wildlife, and U.S. Fish and Wildlife Service.

Size of Area: I-90 Corridor
Status: Ongoing
Congressional District: W8 Rod Chandler
Contact:

B.Ramos
206-888-1421

****

Mt. Baker-Snoqualmie NF
Baker Lake Project
Features:

Development and presentation of displays that would describe the variety of activities, their inter-relations, and results of integrated management in the Baker Lake Area (e.g., Koma Kulshan Small Hydro Project, Barrier-free old-growth trail, Slippery Rock Timber Sale, fish and wildlife habitat improvement projects).

Partners:

Koma Kulshan Associates, Inc., Skagit System Cooperative, Washington Department of Wildlife, U.S. Fish and Wildlife Service, and The Baker River Group.

Size of Area: Baker Lake area
Status: Ongoing
Congressional District: W2 Al Swift
Contact:

J.Iozzi
206-856-5700

****

Mt. Baker-Snoqualmie NF
Slippery Rock
Features:

Alternative harvesting systems, old-growth, owls, and wildlife winter range.

Partners:
Size of Area: 2,600 acres
Status: Ongoing
Congressional District: W2 Al Swift
Contact:

J.Iozzi
206-856-5700

****

Mt. Hood NF
Bull Run Watershed Management
Features:

Salvage logging in sensitive municipal watershed, ecosystem sustainability, research, intensive monitoring, and study of unsalvaged blowdown.

Partners:

City of Portland, USGS, sale operator, and environmental groups

Size of Area: 95,000 acres
Status: Active (planning)
Congressional District: 03 Ron Wyden 05 Mike Kopetski
Contact:

R.Hardman
Telephone 503-695-2276

****

Mt. Hood NF
City of the Dalles Watershed
Features:

Cooperative management of the City of the Dalles Watershed for the production of quality water and management of all resources.

Partners:

City of the Dalles Watershed Department, Oregon Department of Fish and Wildlife, and the Forest Service.

Size of Area: 14,200 acres
Status: Ongoing
Congressional District: 02 Bob Smith
Contact:

R.Archer
503-467-2291

****

Mt. Hood NF
Clackamas Ranger District New Perspectives Demo Area
Features:

Landscape ecology, stewardship program, and a variety of Forest Plan allocations are located within the site, including: earthflow, crucial big game winter range, special interest area, Clackamas River Wild and Scenic corridor, scenic viewshed, Pine Martin Pileated Woodpecker management areas, key site riparian, Bald Eagle habitat area, and an area for timber emphasis. Spotted Owl Habitat Conservation Areas class 1 and 4 are also within the area. An ancient old-growth forest interpretative trail is located across the district office at Alder Flat Trailhead and is frequently used. The area is also diverse in vegetation, landforms, ecosystems, and land uses.

Partners:

Portland General Electric, Rocky Mountain Elk Foundation, Oregon Department of Fish and Wildlife, Soil Conservation Service, and Timber Lake Job Corps.

Size of Area: 10,000 acres
Status: Planning
Congressional District: 05 Mike Kopetski
Contact:

L.Yanez
503-630-4256

****

Ochoco NF
Marks Creek Uneven-aged Management Study Site
Features:

Uneven-aged management, monitor ecosystem response to differing practices, biological legacies and multiple tree size classes, the sustainability of periodic harvests of wood products, snags and other functional outputs, the recruitment of cover through the development of crown closure, the density and composition of ground vegetation, the effects on soil structure and density, and the resiliency of this forest type are all factors which are being monitored.

Partners:

PNW Research Station and Region 6, Forest Pest Management Group.

Accomplishments FY 92:

Design of interpretive pamphlet, cooperation with Oregon DOT for highway signing (both due for completion in FY 93), educational opportunity area for adjacent landowner (school), and coordination with learning center.

Congressional District: 02 Bob Smith
Contact:

Linda Collier
503-447-9645
Don Wood
503-447-6247

****

Crooked River National Grassland
Holistic Resource Management Community Development Project
Features:

Holistic resource management, grasslands, public forum, and ecologically sustainable management.

Partners:

The Gray Butte Grazing Association, Oregon Department of Fish and Wildlife, Center For Holistic Resource Management to set up a curriculum, and PNW Research Station

Accomplishments FY 92:

Demonstration of New Perspectives principles to multiple groups of visitors, permittees, college ecology classes, congressional staff, incorporation as a demonstration area for related ecological training courses, and others.

Size of Area: Range allotment
Status: Ongoing since 1986
Congressional District: 02 Bob Smith
Contact:

Byron L. Cheney
Telephone 503-447-9640

****

Ochoco NF
Gray Gap Timber Sale Modification
Features:

Silvicultural prescriptions, limited habitat fragmentation, improve forest health, water quality, scenic resources, and biological diversity.

Partners:

Oregon Department of Fish and Wildlife, Warm Springs Tribe, Ochoco Elk Hunters, and Oregon Trout.

Size of Area:
Congressional District: 02 Bob Smith
Contact:

Dave Owens, Prineville Ranger District
Telephone 503-447-9641

****

Ochoco NF
Naste Timber Harvest and Sensitive Plant Study on the Snow Mountain Ranger District
Features:
Sensitive plants, sustainable ecosystems, timber harvest, and biological diversity.
Partners:
Wenatchee Forestry Sciences Lab and Burns RD (Malheur NF). External networking will involve the Oregon Natural Heritage Data Base, Native Plant Society of Oregon, Oregon Department of Agriculture, Oregon State University, timber industry, and Oregon Natural Resources Council.
Size of Area: 300 acres
Congressional District: 02 Bob Smith
Contact:
Andrew Kratz, District Botanist
Telephone 503-447-9695

****

Okanogan NF
Dragon Timber Sale and Adjacent Projects
Features:
Recreation, visuals, timber, huckleberry production, range, and wildlife.
Partners:
Wenatchee Forestry Sciences Lab, Colville Tribe, the wildlife department, Bureau of Indian Affairs, and adjoining district were also involved.
Congressional District: W4 Sid Morrison
Contact:
Elaine Zieroth, District Ranger
Kent Woodruff, Wildlife Biologist
Telephone 509-486-2186

****

Olympic NF
Spencer Project
Features:

Collaborative planning process involving partners in all stages of project development from inventory through implementation and sustainable production of all resources at landscape level.

Partners:

Jefferson County Economic Development Commission, Quilcene Ancient Forest Coalition, Washington Environmental Council Native Plant Society, a local logging company owner, a local landowner, and a recreation user.

Size of Area: 1,635 acres
Status: Planning
Congressional District: W2 Al Swift
Contact:

Kathleen Snow
Telephone 206-685-8776

****

Olympic NF
Townsend Creek IRAA
Features:

Landscape level planning, integrated timber, wildlife, fisheries, watershed projects, and structural diversity.

Partners:
Size of Area: 6,225 acres
Status: Implementation
Congressional District: W2 Al Swift
Contact:

Kathleen Snow
Telephone 206-685-8776

****

Olympic NF
South Fork Soleduck Tom Creek Landscape Analysis
Features:

Application of landscape ecology process developed by Nancy Diaz to a drainage on Soleduck Ranger District, biodiversity, maintenance or restoration of old-growth interior habitat, maintain and develop connecting corridors between Olympic National Park and HCAs, anadromous fisheries, elk winter range, timber, disaggregate, and implement the Forest Plan on a landscape basis.

Partners:

North Olympic Ancient Forest Coalition, Hoh River Timber, Washington Commercial Forest Action Committee, Olympic National Park, Quillayute Tribal Council, and the City of Seattle.

Size of Area: 9,000 acres
Status: Analysis
Congressional District: W2 Al Swift
Contact:

Farrell
Telephone 206-374-6522

****

Olympic NF
Moclips Thinning
Features:

Recreation, wildlife, and timber.

Partners:

Seeking partnerships with private timber industry, Washington Department of Natural Resources, Quinault Indian Nation, and Boy Scouts

Size of Area: 9,000 acres
Status: Proposal
Congressional District: W2 Al Swift
Contact:

Mel Davis, Quinault RD
Telephone 206-288-2525

****

Rogue River NF
Stella Mountain Demo Area
Features:
Timber, visuals, and riparian.
Partners:
Rogue Institute of Ecology and Economy (coalition of labor and environmental community organizations in Southern Oregon).
Size of Area: 1,000 acres
Status: Planning
Congressional District: 02 Bob Smith
Contact:
Robert Wilcox, Prospect District Ranger
Telephone 503-560-3623

****

Rogue River NF
Ashland Watershed
Features:
Water, scenery, owls, urban-wildland interface, and role of fire.
Partners:
City of Ashland, Southern Oregon College, Aerial Forest Management Foundation, and Rogue Valley Fire Prevention Coop.
Size of Area: 14,500 acres
Status: Monitoring
Congressional District: 02 Bob Smith
Contact:
Mary Smelcer, Ashland Ranger District
Telephone 503-482-3333

****

Siskiyou NF
Shasta-Costa Project
Features:

Biodiversity, landscape, timber, fisheries integration, timber sale planning in roadless area with intense public involvement, and on a landscape scale.

Partners:

Southern Oregon Timber Industry Association

Size of Area: 26,000 acres
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:

S.Mathison
Telephone 503-247-6651

(note: photos of "Old/New Perspectives" -lower Shasta Costa thinned in early '70's, shows "desired future condition" for current planning).

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Siskiyou NF
Flying Taylor Timber Sale
Features:

Application of New Perspectives to timber sale in general forest and a visual corridor near Wild and Scenic Rogue River.

Partners:

Advisory Board (spotted owl), Columbia Helicopters and other contractors, Oregon Department of Fish and Wildlife, and Coastal Oregon Productivity Enhancement.

Size of Area: 4,200 acres
Status: Completed
Congressional District: 02 Robert Smith
Contact:

Liz Agpaoa:
Telephone 503-476-3830
(photos)

****

Siskiyou NF
Silver Fire Recovery
Features:
Unprecedented public involvement, salvage of 100 MMBF, commitment to intensive monitoring, and landscape scale planning.
Partners:
Natural Heritage Database and Coastal Oregon Productivity Enhancement
Size of Area: 100,000 acres
Status: Completed
Congressional District: 02 Robert Smith
Contact:
Mary Zuschlag
Telephone 503-479-5301
(photos)

****

Siuslaw NF
Multi-story Stand Establishment Project
Features:
Creation of structural vegetative diversity in managed stands through commercial thinning, acceleration of late successional, and old-growth stand characteristic development.
Partners:
Oregon State University and PNW Research Station.
Size of Area: 400 acres
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:
S.Johnston
Telephone 503-476-3830

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Umatilla NF
Buzzard Analysis Area
Features:

Sustainable ecosystem.

Partners:

Blue Mountain Natural Resources Center, local Audubon Society, 18 individuals, and 24 special interest groups.

Size of Area:
Status: Planning
Congressional District: 02 Robert Smith
Contact:

Gary Rollins
Telephone 503-276-3811

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Umpqua NF
Hemlock Timber Sale
Features:

Application of New Perspectives principles toward the goal of blending intensive management of the timber resource with potential for recreational development which could benefit the Douglas County economy.

Partners:

Local trail and horse groups, Douglas County Planning, Roseburg Chamber of Commerce, Oregon State University, Umpqua Community College, Oregon Department of Fish and Wildlife, and local timber operators and conservation groups.

Size of Area: 10,250 acres
Status: In Gate 2
Contact:

G.Buckingham
Telephone 509-522-6290

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Umpqua NF
Layng Creek Municipal Watershed
Features:

Multiple use management within a municipal watershed, sustainability of water quality while providing for a range of commodity and amenity outputs, and state-of-the-art technology and its application to watershed enhancement projects.

Partners:

City of Cottage Grove

Size of Area: 33,000 acres
Status: Ongoing
Congressional District: 04 Peter DeFazio
Contact:

James Wieman
Telephone 503-942-5591

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Umpqua NF
Brice Creek Natural Resource Education Area
Features:

Natural resource education, old growth ecosystems, land ethics, and potential for positive public involvement.

Partners:

University of Oregon, Lane Community College (potential), and South Lane School District (potential)

Size of Area: 50 acres
Status: Ongoing
Congressional District: 04 Peter DeFazio
Contact:

James Wieman
Telephone 503-942-5591

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Umpqua NF
Paw Timber Sale EIS
Features:

Sustainable ecosystem management; landscape level planning addressing fragmentation, wildlife travel corridors, biodiversity, roadless character; loader logging, and piling to protect soil resource.

Partners:
Size of Area: 10,218 acres
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:

R.Abbott, Diamond Lake RD
Telephone 503-498-2531

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Umpqua NF
Lake Creek Timber Sale EIS
Features:

Sustainable ecosystem management; landscape level planning addressing fragmentation, wildlife travel corridors, biodiversity, roadless character; loader logging and piling to protect soil resource; uneven-aged silvicultural practices in high elevation true fir mountain hemlock.

Partners:
Size of Area: 7,800 acres
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:

S.Nelson, Diamond Lake RD
Telephone 503-498-2531

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Umpqua NF
Chopper, Nuff, Fishline, Hot-Tee Timber Sales
Features:
Loader logging and piling to maintain long-term site productivity; and protect soils.
Partners:
Allen and Gibbons Logging, A and P Logging, and Bob Birkenfield Logging.
Size of Area: 150 acres
Status: Completed
Congressional District: 04 Peter DeFazio
Contact:
D.Anderson, Diamond Lake RD
Telephone 503-498-2531

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Umpqua NF
Foster Creek Rehabilitation Project
Features:
Water quality issues with the potential to affect anadromous fisheries; long-term monitoring and adaptive management; waddling techniques; restoring large woody material to Foster Creek.
Partners:
Steamboaters Fly Fishing Organization
Size of Area: 2,000 acres
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:
K.Graves
Telephone 503-498-2531

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Umpqua NF
Pigout Timber Sale EA
Features:

Visual sensitivity from a National Scenic Byway, helicopter partial removal, uneven-age silvicultural practices, and helicopter logging to protect the soil resource.

Partners:

Northwest Helicopter Association

Size of Area: 200 acres
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:

R.Abbott
Telephone 503-498-2531

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Umpqua NF
1991 Spring Burning Program
Features:

Low intensity broadcast burning and underburning to protect soils and water, residual stand, existing large woody material and effective ground cover, and duff nutrient layer; helicopter underburning.

Partners: PNW Research Station
Size of Area: 2,000 acres
Status: Monitoring
Congressional District: 04 Peter DeFazio
Contact:

D.Kreger
Telephone 503-498-2531

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Umpqua NF
Mimulus jepsonii Habitat Manipulation Project
Features:
TES species enhancement.
Partners:
Native Plant Society, State of Oregon, and University of Washington Science Lab.
Size of Area: 10 acres
Status: Implementing
Congressional District: 04 Peter DeFazio
Contact:
K.Graves
Telephone 503-498-2531

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Umpqua NF
Native Seeding Project
Features:
Identifying native seed for wildlife forage and soil rehabilitation.
Partners:
Oregon Department of Fish and Wildlife, Native Plant Society, State of Oregon, and Stone Nursery
Size of Area: Regional
Status: Planning
Congressional District: 04 Peter DeFazio
Contact:
K.Graves
Telephone 503-498-2531

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Umpqua NF
Interpretive Programs
Features:
Cultural resource educational programs to local school systems; natural resources interpretive program at Diamond Lake Resort.
Partners:
Diamond Lake Improvement Company
Size of Area: NA
Status: Ongoing
Congressional District: 04 Peter DeFazio
Contact:
P.McCoy
Telephone 503-498-2531

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Wallowa-Whitman NF
Pine Ranger District
Features:
Consensus process, creative partnerships, habitat improvements, timber, old-growth, corridors, forest health, and visuals.
Partners:
Baker County Parks and Recreation, Friends of Lake Fork, Ellingson Lumber Company, Wallowa Alliance, Oregon Natural Resources Council, Eastern Watershed Improvement Coalition, local ranchers, Fagley Logging, and Oregonians in Action.
Size of Area: Ranger District
Status: Ongoing
Congressional District: 02 Robert Smith
Contact:
Orlano Gonzales, District Ranger
Telephone 503-523-4476

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Wallowa-Whitman NF
Chesnimnus Riparian Improvement
Features:
Water quality, wildlife, fish habitat, riparian vegetation, livestock grazing, and public participation.
Partners:
Bonneville Power Administration and Blue Mountains Natural Resources Institute.
Size of Area:
Status: Ongoing
Congressional District: 02 Robert Smith
Contact:
Kevin Martin, Wallowa Mountain Fish and Wildlife Zone Manager
Telephone 503-432-4978

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Wallowa-Whitman NF
Upper Imanha River and Hells Canyon National Recreation Area
Features:
Recreation: especially scenic, fisheries and wildlife.
Partners:
Potentially: Oregon Department of Fish and Wildlife, Nez Perce Tribe, Hells Canyon Preservation Council, Snowmobile club, timber industry, Oregon Rivers Council, Oregon Lands Coalition, two county governments, and the Imanha River Ad Hoc Work group.
Size of Area: Ranger District
Status: Ongoing
Congressional District: 02 Robert Smith
Contact:
Kevin Martin
Telephone 503-432-4978

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Wenatchee NF
Swauk Pass Demonstration Area
Features:

Research and interpretive opportunities in all types of silvicultural harvest methods. Interpretive trail completed by non-profit youth organization. Interpretive signs and informational materials ordered for delivery this year. Potential for future work in DCS or HCA to improve long-term owl and other interior late successional species while protecting against large scale forest health or fire occurrences. Potential for landscape scale ecosystems management demonstration.

Partners:

University of Washington and Wenatchee Forestry Sciences Lab

Size of Area: 500 acres
Status: Planning
Congressional District: W4 Sid Morrison
Contact:

M.Bickford
Telephone 509-662-4368

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Wenatchee NF
Tiptop Timber Sale
Features:

Planning around T&E plant species and sounding board group.

Partners:

Wenatchee Forestry Sciences Lab

Size of Area: 3,000 acres gross
Status: Planning
Congressional District: W4 Sid Morrison
Contact:

R.Heath
Telephone 509-782-1413

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Willamette NF
Blue River District (H.J. Andrews Project)
Features:
Biodiversity, timber, old-growth, landscape ecology, watershed, research integration; research about effects of harvest in old-growth on watershed and soils; gap study.
Partners:
Oregon State University, and PNW Research Station
Size of Area: 15,800 acres
Status: Ongoing
Congressional District: 04 Peter DeFazio
Contact:
L.Burditt
J.Cissel
Telephone 503-822-3317
(photos)

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Willamette NF
Shady Beach Fire Recovery
Features:
Timber salvage with wildlife mitigation; eco-plot research.
Partners:
PNW Research Station
Size of Area: 22,456 acres
Status: Completed
Congressional District: 04 Peter DeFazio
Contact:
Herbert Wick
Telephone 503-782-2283
(photos)

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Winema NF
Armillaria Research Project
Features:

This project is two timber sales. There has been significant interaction on the project with the public who live near the project location. The project area contains large pockets of Armillaria root rot. Research is working on the project to demonstrate that timber harvest and restocking can occur in root rot pockets.

Partners:

Research and local publics.

Size of Area: 700 acres
Status: Planning
Congressional District: 02 Robert Smith
Contact:

Rob Shull
Telephone 503-883-6714

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Winema NF
Bald Eagle Habitat Demo
Features:

Vegetation manipulation, multi-storied stands; bald eagle nesting and roosting habitat; marsh and lake management; fish; fire management.

Partners:

Universities, conservation organizations, Fish and Wildlife Service, and timber industry

Size of Area:
Status: Ongoing
Congressional District: 02 Robert Smith
Contact:

Brent Frazier, Winema NF, 503-883-6714
Rick Hardy, Klamath Fall RD, 503-883-6714

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Winema NF
Forest Plan Interpretive Tour
Features:

Timber management, old growth, wild and scenic rivers, big game winter range, and self-guided auto tour.

Partners:
Size of Area:
Status: Completed
Congressional District: 02 Robert Smith
Contact:

Jay Christensen, Planning Staff Officer
Telephone 503-883-6714

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